

NORTH GRIMSBY TOWNSHIP

By

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## CHAPTER ONE

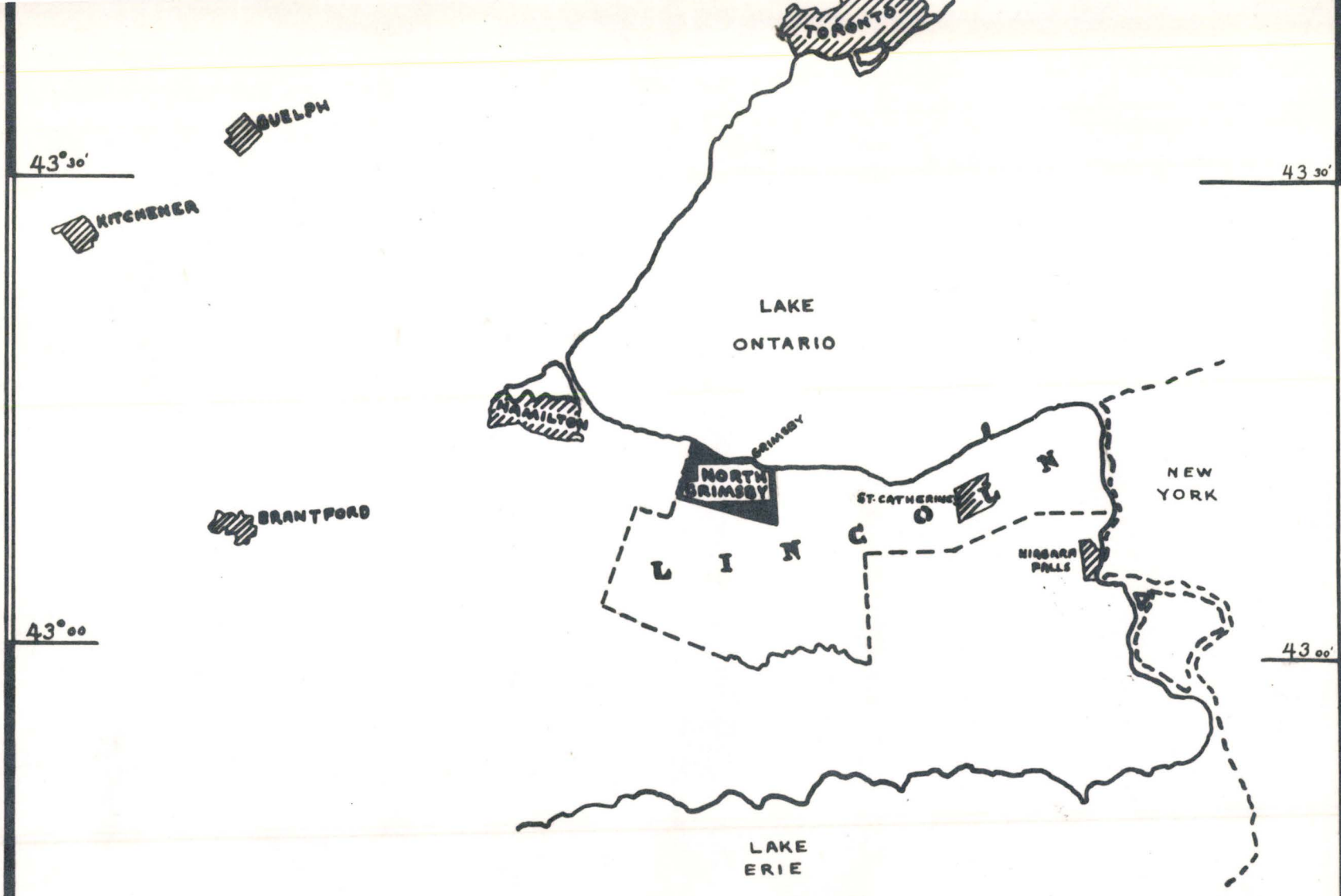
### LOCATION <sup>1</sup>

North Grimsby township occupies a unique position. Not only does it form a part of the famous Niagara Fruit Belt, but it is also situated half way between the two industrial areas of the Niagara Peninsula, Hamilton to the west, and Niagara - St. Catharines to the east. As well, it is virtually cut in two by the Niagara Escarpment which runs in an east-west direction through the township.

The township forms the north-west corner of Lincoln County; to the north is Lake Ontario; immediately west is Saltfleet Township of Wentworth County; to the south and east, respectively, are South Grimsby and Clinton Townships, both of Lincoln County. North Grimsby Township lies between  $43^{\circ} 9'$  north latitude and  $43^{\circ} 14'$  north latitude and between  $79^{\circ} 31'$  west longitude and  $79^{\circ} 39'$  west longitude. Its western boundary bears North  $18^{\circ}$  East; the southern boundary East  $18^{\circ}$  South and the eastern boundary bears approximately North-South.

The general shape of the township is rectangular, modified greatly on the north by Lake Ontario. Discounting the irregularity of this northern boundary, the area of the township is approximately 28 square miles, seven miles from east to west and four miles from north to south. The two main highways and one of the

2.



# NORTH GRIMSBY TWP.

GENERAL LOCATION MAP

SCALE :



80°30'

80°00'

79°30'

79°00'

D. MACLEOD  
1953

PLATE 1

rail lines of the township run east and west and this, combined with the prominence of the Niagara Escarpment and the narrowness of the lake plain, tends to emphasize the rectangular shape.





FIG. 1 Lockport Dolomite, a small ridge approximately two miles south of the Brow.



FIG 2. Beamer's Falls, where Forty Mile Creek leaves the Dip Slope. Note the horizontal strata.

## THE PHYSICAL GEOGRAPHY

### GEOLOGY

#### PRE GLACIAL

The underlying bedrock formations of North Grimsby Township belong to the Silurian and Ordovician systems of the Palaeozoic Era; they are all sedimentary in nature.

During Palaeozoic times a shallow sea covered the area south of the Pre-Cambrian Shield. Because of fluctuations in the earth's surface, the amount of sediment deposited in this sea varied from time to time. Eventually through compaction and cementation, the materials were transformed into beds of rock. With uplift from the north-east, the region became dry land. This process occurred towards the end of Palaeozoic time.

The Niagara Escarpment is due mainly to the different rates of erosion of the soft shales and harder dolomites by running water. The almost vertical cliffs, rising in places to a height of 300 feet above the lake plain, form a distinct break between the Queenston shale below and the Silurian formations above.

A more detailed study of the scarp face in North Grimsby township shows the following strata, from the top to the bottom.

#### SILURIAN

1. Lockport formation - light grey dolomite, some brownish bituminous dolomite, 12 feet.
2. Rochester formation - dark grey shale, 45 feet.





FIG. 3. Vinemount moraine. A view looking to the north.



FIG. 4. Ground moraine. Pencils in the foreground are approximately 8" long. Crop is winter wheat.



3. Clinton formation - light grey dolomitic limestone, some grey shale, 14 feet.

4. Medina formation - white grey and red sandstone, red, green and grey shale, argillaceous limestone, 110 feet.

#### ORDOVICIAN

1. Queenston formation - red, in part sandy, shale, narrow greenish-grey bands running parallel to the bedding plane through the reddish shale. This formation is about 1,000 feet in thickness.

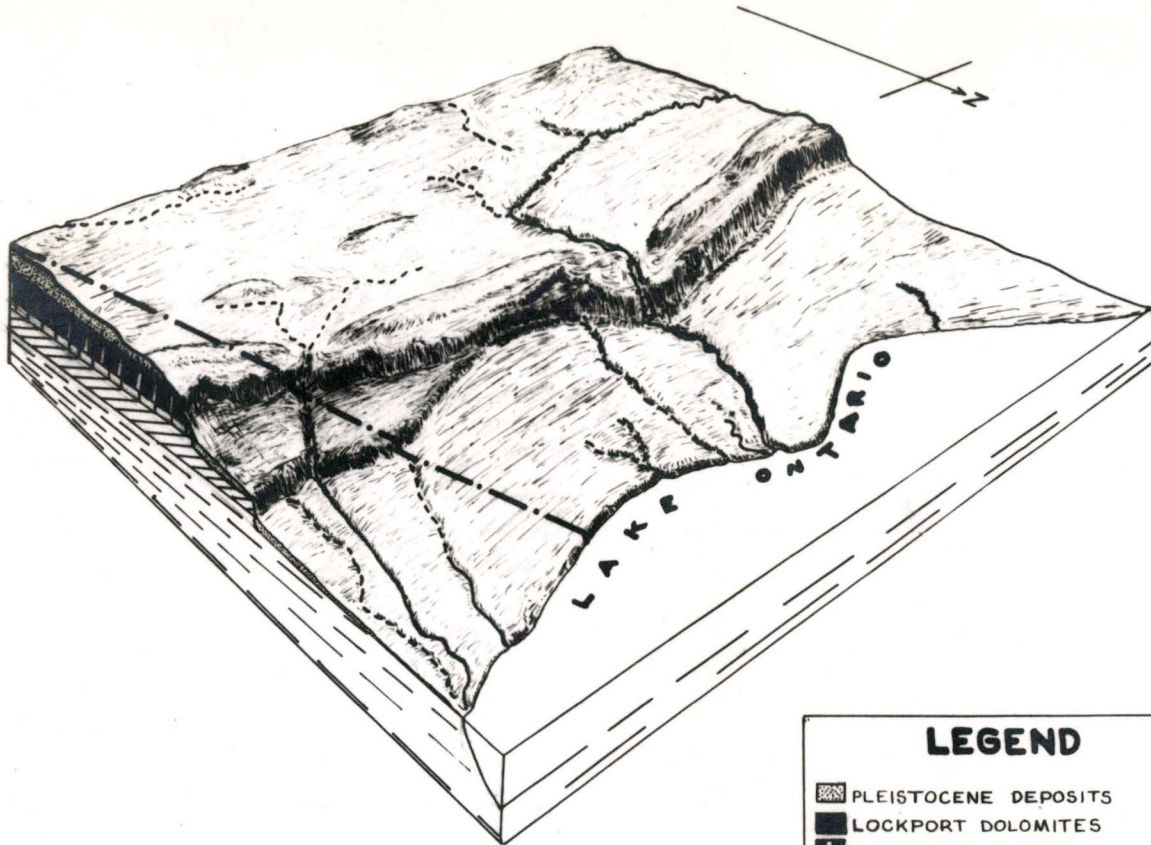
The strata above the Queenston shale dip to the southwest, approximately thirty five feet to the mile.

It is upon this structural base that the present topographic features have been formed. Preceding the great ice sheets, stream action cut small valleys into the scarp face to provide direct drainage from the top of the escarpment to the area below.







#### GLACIAL

Glacial action in this area was largely depositional. The chief type of deposit was till, ground up rock mixed with pebbles and boulders, the latter of various kinds of rock gathered from a wide area. Many of the boulders are Archean, especially granite and gneiss, others are fragments of shale or limestone of the Palaeozoic Era. Most of the larger boulders have been removed from the fields. Those remaining are usually less than four inches in diameter. The boulder clay covers the original irregular surface of rock and varies from one or two inches in depth at the brow of the escarpment to over one hundred feet thick two or three miles to the south.

# BLOCK DIAGRAM of NORTH GRIMSBY TWP. SHOWING GEOLOGY and RELIEF



## LEGEND

-  PLEISTOCENE DEPOSITS
-  LOCKPORT DOLOMITES
-  ROCHESTER SHALES
-  CLINTON DOLOMITES, SHALES
-  MEDINA SANDSTONE, SHALE  
LIMESTONE
-  QUEENSTON SHALE



Two Terminal Moraines may also be seen on the dip slope, the Vinemount Moraine at the brow of the escarpment and the Niagara Falls Moraine about three miles to the south of the scarp face.

The glacier deposited material below the escarpment but wave action and sorting by glacial Lake Iroquois has resulted in a relatively flat relief. The conspicuous land forms found on the Lake plain are a flat terrace at the eastern boundary of the township and the lake bar which extends to the western boundary of the township. Both the bar and terrace are to be found at the foot of the escarpment. The bar was laid down by glacial Lake Iroquois which was formed after the melting of the ice in the Ontario basin. The terrace is an extension of the sedimentary rocks. It has been covered by water sorted sediments.

The shore of Lake Ontario offers an excellent opportunity to view the sub-surface materials of the lake plain. At the Grimsby Water works, and for approximately a mile west of the Forty Mile Creek, Queenston shale rises to a height of twelve feet above the level of the water. Above the shale are the Pleistocene deposits. This series varies from two to twenty feet in thickness and exhibits excellent examples of sorting by wave action. Above this banded formation is a layer of finer clays and sands which have been deeply weathered on the surface.

Post Glacial Geology is largely concerned with erosion and weathering of the deposited materials. Forty Mile Creek, the largest stream in the township, drains the area between the Vinemount and Niagara Falls Moraines. It flows east and then north over the escarpment by way of a pre-glacial valley. The volume of water in





FIG. 5. Shore of Lake Ontario. Note Queenston Shale formation at water level, pebbled clay above.



FIG. 6. Mouth of the Forty Mile Creek.

this stream has decreased considerably, as well, the level of Lake Ontario has increased; therefore downward erosion is not great.

Erosion of the shore line by Lake Ontario is a serious problem all along the Niagara Peninsula. A. P. Coleman<sup>1</sup> estimates that erosion averages approximately three feet per year. In addition to the expense involved in combatting erosion, the problem is especially serious because it means the complete loss of valuable soil.

1 - Coleman, A. P., Geology of the North Shore of Lake Ontario  
Ontario Department of Mines, Vol XLV, Part VII  
P. 42



## CLIMATE

Lincoln County is situated in two climate regions as designated by Putnam and Chapman; there are the Niagara Fruit Belt and the Lake Erie County Region. North Grimsby Township, because of its location is more influenced by Lake Ontario and so lies almost entirely within the first region. The influence of Lake Ontario diminishes as one goes farther back from the escarpment.

The following table of Temperature and Precipitation are given for Grimsby and may be considered to be representative of the lake plain.

T A B L E I

19 years observations in Degrees Farenheit

<u>Month</u>	<u>Max.</u>	<u>Min.</u>	<u>Mean</u>
January	32	18	25
February	31	17	24
March	41	25	33
April	54	36	45
May	65	43	54
June	75	53	64
July	81	60	71
August	78	59	69
September	72	53	62
October	60	42	51
November	47	33	40
December	36	23	29
Year	56	39	47

Precipitation

<u>Month</u>	<u>Total</u>	<u>Inches Snow</u>	<u>Rain</u>
January	2.81	7.3	2.08
February	2.23	11.6	1.07
March	2.37	5.0	1.87
April	3.01	0.2	2.99
May	2.89	---	2.89
June	3.18	---	3.18

July	2.81	---	2.81
August	3.01	---	3.01
September	2.71	---	2.71
October	2.82	0.1	2.81
November	2.38	0.9	2.29
December	2.00	6.3	1.37
Year	32.22	31.4	29.08

T A B L E II

The following figures were from Chapman and Putnam's "Climate of South Western Ontario". They offer a summary of the climatic picture and show the modifying influence of the lake upon temperature.

The first figure refers to conditions above the escarpment and the second to the lake plain.

Average Temperature Degrees Farenheit

	<u>Above</u>	<u>Below</u>
January	23	24
February	22	23
March	30	31
April	43	44
May	56	55
June	65	66
July	69	71
August	68	67
September	61	62
October	49	50
November	39	40
December	28	30

Daily Temperature range 18°, 17°.  
 Extreme low -20°, -15°.  
 Extreme high 104°, 104°.  
 Last Spring frost - May 8th.  
 First fall frost - October 13th.  
 Frost free period 158 days.  
 Beginning of growing season - April 11th.  
 End of growing season - November 9th.  
 Length of growing season - 212 days  
 Annual precipitation - 30.9"  
 Average Snowfall - 38"



Rainfall April 1st - September 30th - 15.7"  
Rainfall June, July, August - 8.0"  
Potential Evapotranspiration June, July, August - 12.8"  
Number of summer months with less than 1" rain in the past  
50 years - 30.  
Percent of possible sunshine in the growing season - 55

The important aspects of these statistics may be considered. Actually four sub-zones can be distinguished as showing slight but significant differences in temperature, first the lake shore, second the foot of the escarpment, third the brow and fourth the sections south of the escarpment. Spring and Summer temperatures are slightly higher back from the lake shore, just below and on the first rise of the escarpment. Any differences are usually dependent somewhat upon the direction and force of air currents as well as local variations in relief. In a cold snap, there may be a difference of  $3^{\circ}\text{F}$  between the temperature at the lake shore and that at the foot of the escarpment, a drop of about  $1^{\circ}\text{F}$  per mile. It must be remembered, however, that these differences are extremely local, and cannot be accurately considered in terms of averages or means.

Again, the third zone is due to local conditions. The escarpment deflects the easterly winds upwards and leaves a relatively undisturbed zone along the ground and close to the escarpment. This stagnant air mass, if present, has a depth of between 10 and 15 feet and usually results in slightly lower temperatures in the winter.

As one goes farther south from the brow, temperatures drop quite rapidly and become more constant again. Local differences are present, for example the slope of the Vinemount Moraine offers some protection from westerly winds and better air drainage than the lower ground to the south.

The annual precipitation of 30.9" makes this area one of the drier parts of Ontario. Drought conditions were especially noticed during the summer of 1952. The winter of 1952-1953 with relatively high temperatures and little lasting snowfall indicates the possibility of drought in the spring of 1953.



## SOILS

The following description of the soils of North Grimsby Township was obtained from the Soils Department of the Ontario Agricultural College. These soils have been conveniently differentiated according to soil materials and drainage.

Most of the soil types of North Grimsby fall within the Grey Brown Podzolic Great Soil Group. These zonal soils have been altered in some areas by local conditions, especially drainage. The resulting altered soils are considered as part of the Intrazonal Dark Grey Gleisolic Soil Group.

### A. Soils developed from Outwash Materials

#### I Good Drainage - Grimsby Sandy Loam

Grimsby Sandy Loam is typical of the Grey Brown Podzolic profile developed on light textured materials. Most of the sandy soils in the township are located below the escarpment and upon a relief which is for the most part level. The organic content is from medium to low, the surface soil medium to strongly acid. Carbonates are found at a depth of from four to six feet.

#### Profile of Grimsby Sandy Loam

- A<sub>0</sub> - 0-9 inches, brown sandy loam, fine crumb structure, very friable consistency, stone free, pH 4.6
- A<sub>2</sub> - 9-25 inches, yellowish brown sand, very slightly mottled, weak platy structure, extremely friable, pH 4.5
- B<sub>1</sub> - 25-32 inches, dark brown sand to sandy loam, mottled, weak fine nuciform structure, very friable consistency, pH 5.2

B<sub>2</sub> - 32-42 inches, reddish brown sandy loam, mottled, weak medium nuciform structure, very friable consistency pH 5.2

C - Light brownish grey sand, slightly calcareous pH 7.0.

## 2. Moderately Good Drainage - Clinton Sandy Loam

This member of the Grey Brown Podzolic Great Soil Group is found in the gently sloping areas of outwash materials. External drainage is medium, internal drainage moderate, with only slight mottling occurring in the lower A<sub>2</sub> horizon. The surface texture ranges from a sandy loam to a fine sandy loam. The subsurface reaction is usually strongly acid. Carbonates are found at depths of from four to six feet.

The Clinton Sandy loam has the following profile characteristics.

A<sub>0</sub> - 0-8 inches, brown sandy loam, fine crumb structure, very friable consistency, stonefree, pH 4.6

A<sub>2</sub> - 8-25 inches, yellowish brown sand, slightly mottled, very weak platy structure, extremely friable consistency, pH 4.5

B<sub>1</sub> - 25-32 inches, dark brown sandy loam, mottled weak fine nuciform structure, very friable consistency, pH 5.2

B<sub>2</sub> - 32-42 inches, reddish brown sandy loam, weak medium nuciform structure, very friable consistency pH 6.0

C - Grey brown sand, calcareous pH 7.0

## 3. Imperfect drainage - Vineland Sandy Loam

The Vineland series is the imperfectly drained member of the Grimsby Catena and forms the major part of the outwash soils of the country. Mottling occurs throughout the profile. Relief is very gently



undulating to level. The organic matter content is medium. In some regions at a depth of from two to three feet a thin layer of clay about one to two inches thick occurs. Beneath this layer the sand continues.

The A<sub>2</sub> and B horizons are extremely hard when clay. The A<sub>2</sub> is often porous.

The following is a typical cultivated profile in a peach orchard.

- A<sub>c</sub> - 0-7 inches, dark grey brown sandy loam, weak fine crumb structure, very friable consistency pH 5.4
- A<sub>2</sub> - 7-12 inches, dark brown to yellow mottled sand, weak platy structure, very friable consistency, pH 6.4
- C - dark yellowish brown sand, pH 6.8

#### B. Soils developed from outwash materials over heavy till and clay

##### 1. Imperfect drainage - Winona Sandy Loam

A member of the Grey Brown Podzolic Great Soil Group, the Winona sandy loam is found chiefly in the fruit belt. This soil type was mapped in areas in which there was from one to three feet of sandy material deposited over clay or heavy clayey till.

The clay or till restricts internal drainage and keeps the water from draining away. This situation is partly overcome by tile drainage.

A cultivated profile shows the following characteristics.

- A<sub>c</sub> - 0-6 inches, very dark grey brown sandy loam, fine fine crumb structure, very friable consistency, pH 6.7
- A<sub>2</sub> - 6-9 inches, bright yellowish brown mottled sand, very weak platy to single grained structure, friable consistency, hard and porous when dry.

- B - 9-23 inches, reddish brown loam, mottled, weak medium nuciform structure, friable consistency, few stones, hard when dry, pH 6.9
- C - Light brownish grey stoney clay till or stone free clay, calcareous, pH 7.4

#### C. Soils Developed on Fine Textured Reddish Shaley Till

These soils occur chiefly below the escarpment, and were formed from shaley till derived from the underlying shale bedrock. Relief varies from level to gently undulating. Internal drainage is very slow. Erosion is quite prevalent on this soil type. In many places the A Horizon has been removed displaying the deeper coloured B Horizon. Very few stones are found in the profile, but numerous boulders occur on the surface. In some areas small sand spots are found; however, these are too small to be mapped.

##### 1. Good Drainage - Lockport Clay

Only two very small areas of well drained Lockport Clay occur in the township. The profile is similar to the imperfectly drained Trafalgar Series except that the solum is free from mottling. The Lockport Clay is a member of the Grey Brown Podzolic Great Soil Group.

##### 2. Imperfect Drainage - Trafalgar Clay

Most of the reddish shaley soils mapped in the township fall within this class. The organic matter is very low and the soil structure is extremely poor. This soil type falls within the zonal Grey Brown Great Podzolic Soil Group.

A cultivated profile has the following characteristics.



- A<sub>c</sub> - 0-3 inches, dark grey brown clay, coarse granular structure, friable consistency, few stones, pH 5.0
- A<sub>2</sub> - 3-7 inches, reddish brown slightly mottled clay, platy structure, friable consistency, pH 4.6
- B<sub>1</sub> - 7-13 inches, weak red slightly mottled clay, medium blocky structure, plastic consistency, pH 4.6
- B<sub>2</sub> - 13-22 inches, dark reddish brown clay, massive structure, plastic consistency, pH 4.8
- C - Dark red calcareous clay, pH 7.2
- D - Red and grey shale rock

3. Moderately poor drainage - Beamsville Clay

4. Poor drainage - Mississauga Clay

Both of these soil types have been classified as members of the Dark Grey Gleisolic Great Soil Group. They are similar to the Trafalgar Clay except their profiles are less well developed, more drab in colour and more highly mottled.

D. Soils Developed on Fine Textured Limestone- Shale Till

Soils of this group are developed on a very heavy stoney till, which has a characteristic grey to greyish brown colour and contains considerable reddish brown shale fragments. Most of the soils of this group are poorly to moderately poor drained and are contained in the Dark Grey Gleisolic Great Soil Group. They occur mainly below the escarpment. The imperfectly drained to moderately well drained associates belong to the Grey Brown Podzolic Great Soil Group and occur chiefly in the Vinemount Moraine above the escarpment. Only small areas of well drained soils occur.

1. Good drainage - Oneida Clay Loam

2. Moderate drainage - Vinemount Clay Loam

Small areas of well drained soils occur on the top of knolls, where external drainage is very rapid. Due to the heavy nature of the B Horizon and the parent material, internal drainage is impeded. This fact accounts for the small acreages of well drained soil. Erosion on the steeper slopes is severe. The organic matter content is very low in these soils.

The following type illustrates a moderately well drained soil type developed on fine-textured limestone-shale till. It shows characteristics of a Grey Brown Podzolic Soil.

- A<sub>0</sub> - 0- $\frac{1}{2}$  inch, very dark brown clay loam, fine crumb structure composed of organic matter and leaf litter.
- A<sub>1</sub> -  $\frac{1}{2}$ -3 inches, very dark brown clay loam, fine crumb structure, very friable consistency, few stones, pH 4.3
- A<sub>2</sub> - 3-6 inches, brownish yellow silt loam, platy structure very friable consistency, few stones, pH 4.5
- A<sub>22</sub> - 6-9 inches, light yellowish brown silty clay loam, fine nuciform structure, very friable consistency, few stones pH 4.7.
- B<sub>2</sub> - 9-27 inches, dark brown mottled clay, medium blocky structure, fine consistency, few stones, pH 5.5
- C - Greyish brown clay till, stoney, plastic calcareous, pH 8.0.

3. Imperfect Drainage

Chinquacousy Clay Loam is the imperfectly drained member of the Oneida Catena. It is located on the lower slopes. The upper



part of the solum is distinctly mottled and the profile is somewhat more shallow than the Oneida profile. The Chinquacousy Clay Loam is classified as a member of the Grey Brown Podzolic Great Soil Group.

A cultivated location shows the following profile characteristics.

- A<sub>c</sub> - 0-4 inches, dark grey brown clay loam, fine crumb like structure, friable consistency, few stones, pH 5.0
- A<sub>2</sub> - 4-7 inches, pale brown slightly mottled clay; medium nuciform structure; firm consistency, few stones pH 4.8
- B<sub>2</sub> - 7-13 inches, brown to dark brown clay, mottled, large blocky structure, plastic consistency, few stones, pH 6.0
- O - Dark grey brown clay, calcareous, pH 7.4

#### 4. Moderately Poor to Poor drainage

1. Virgil Clay Loam
2. Jeddo Clay Loam

Both of these clay loams are contained in the Dark Grey Gleisolic Great Soil Group. The poorly drained condition is caused both by the heavy nature of the soil and the nearly level terrain upon which it is found. The physical structure is extremely poor because of the low amount of organic matter and the intensive cultivation. The surface soil dries out rapidly and is exceedingly difficult to work.

A virgin Jeddo Clay Loam profile, displays the following characteristics.

- A<sub>1</sub> - 0-4 inches, very dark clay loam, medium granular structure, friable consistency, few stones, pH 5.0
- B<sub>1</sub> - 4-13 inches, grey to brownish yellow mottled clay, large nuciform structure, sticky and plastic consistency, few stones, pH 4.5

B<sub>2</sub> - 13-19 inches, yellowish brown and dark grey brown,  
highly mottled clay, massive structure, pH 4.6

O - Grey and brown calcareous stoney clay till, pH 7.4

#### E. Soils Developed on Lacustrine Materials

The lacustrine materials are deposited in varying thicknesses over the underlying till moraine. The terrain is moderately to very gently undulating. A few boulders are scattered over the surface but very few stones occur within the profile. These soils are generally very low in organic matter and display a characteristic light grey colour when cultivated and dry. The soils are extremely acid in reaction; carbonates occur at about 20 inches. The surface texture ranges from a clay loam through a silty clay, to clay to a heavy clay. These soils are very hard when dry and have very poor physical structure.

Areas of imperfect drainage occur in considerable numbers throughout these soils. The members of this Catena are Haldimand Clay, Caistor Clay, Lincoln Clay and Campden Clay. These are well drained, imperfectly drained, moderately drained, moderately poorly drained and poorly drained members respectively.

##### 1. Good Drainage - Haldimand Clay

The major part of this Grey Brown Podzol occurs in the vicinity of stream courses and where the terrain is somewhat more sloping than is usual. The external drainage is medium, while the internal drainage is slow. The surface reaction is usually very strongly acid. Carbonates occur at about 20 to 24 inches, and organic content is extremely low. Very few boulders are found on the surface and practically no stones or grit occur within the profile.



A cultivated profile has the following characteristics.

- A<sub>c</sub> - 0-4 inches, light brownish grey clay and heavy clay, medium granular structure, friable (wet), hard (dry) consistency, very few stones, pH 5.0
- A<sub>2</sub> - 4-6 inches, light brownish grey clay, fine uniform to weak platy structure, very friable consistency, pH 4.8
- A<sub>22</sub> - 6-12 inches, pale brown clay, slightly mottled, large blocky structure, firm consistency, pH 4.8
- B<sub>2</sub> - 12-20 inches, dark grey brown clay or heavy clay, slightly mottled, prismatic and large blocky structure, sometimes massive, hard consistency, pH 6.5
- B<sub>3</sub> - 20-23 inches, dark grey clay or heavy clay, large blocky or massive structure, calcareous, pH 7.4
- C - Grey brown clay and heavy clay, containing lime concretions, highly calcareous, stonefree generally pH 7.4

2. Imperfect Drainage - Caistor Clay

Grey Brown Podzolic Great Soil Group

3. Moderately Poor Drainage - Lincoln Clay

Dark Grey Gleisolic Great Soil Group

4. Poor Drainage - Campden Clay

The Campden Series is the poorly drained member of the Haldimand Catena. It is part of the Dark Grey Gleisolic Great Soil Group. The major area of this series is mapped just south of the Vinemount Moraine. The external drainage is very poor and due to the high clay content internal drainage is also poor. The soil breaks into hard clods when dry and is extremely difficult to cultivate unless moisture conditions are ideal. The reaction is much more alkaline than the well drained soils of the Catena.

The characteristics of a virgin profile are as follows:

- A<sub>0</sub> - 0- $\frac{1}{4}$  inch, partly decomposed leaf litter.
- A<sub>1</sub> -  $\frac{1}{4}$ -4 inches, very dark grey brown clay, medium granular structure, friable consistency, pH 6.8
- G<sub>1</sub> - 4-11 inches, very dark grey, mottled clay, massive structure, hard consistency, pH 6.5
- G<sub>2</sub> - 11-22 inches, dark grey and yellowish brown mottled clay and heavy clay, massive to large blocky structure, hard consistency, pH 7.0
- C - Grey clay and heavy clay, calcareous, stone free, pH 7.0

#### F. Shallow Soils over Limestone Bedrock

Variable drainage

1. Farmington Clay

#### G. Miscellaneous Soils

1. Bottomland
2. Escarpment

The above three soil types show little or no profile.

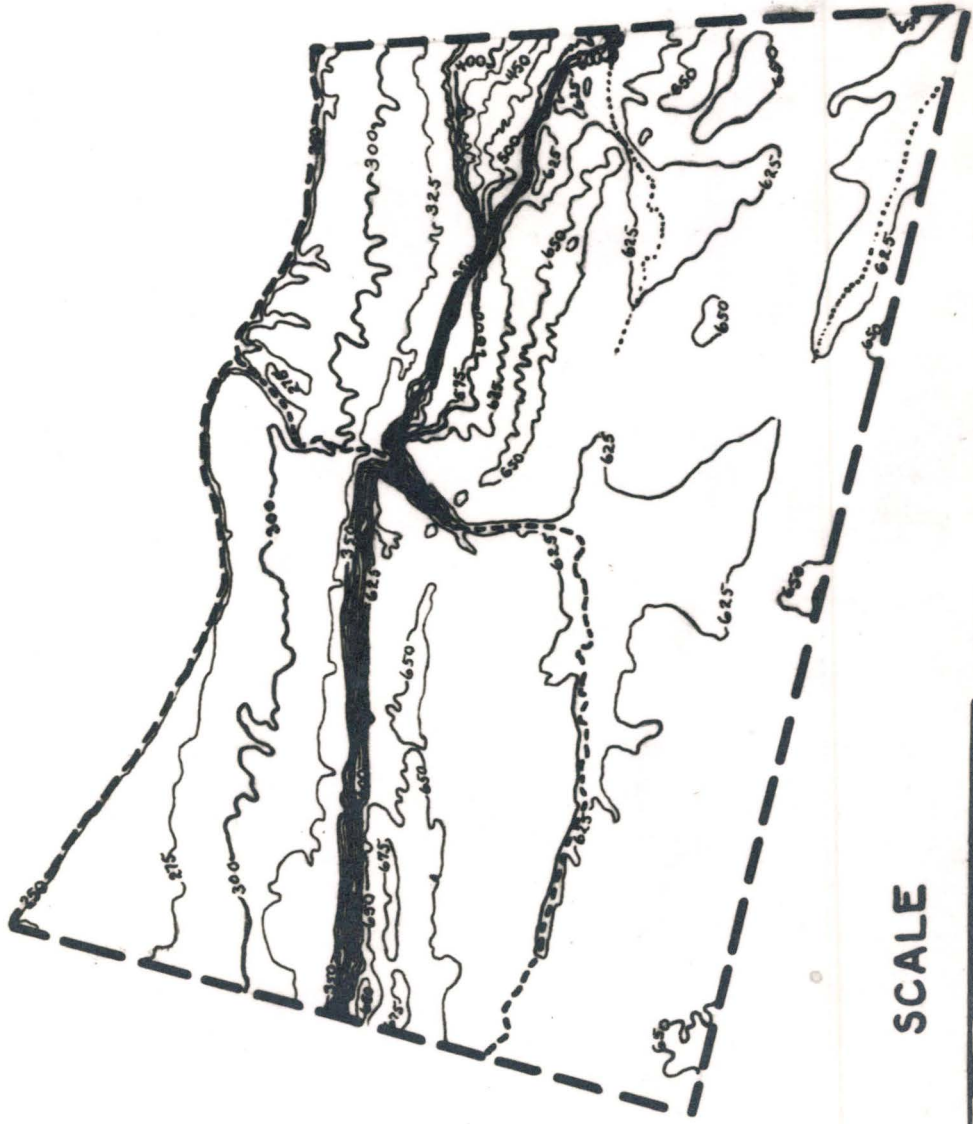
In the Farmington Clay Soil Series, there is very little covering and in many areas the limestone bedrock actually appears at the surface.

The Bottomland Soils are found along the stream courses and because the soil forming processes are unable to operate, there is no profile development.

Steep slopes and lack of soil cover prevents any soil profile from forming in the last soil type. Since most of the scarp face is in woodlot, a poorly decomposed leaf litter covers the whole area.



CONTOUR MAP of NORTH GRIMSBY TWP.



SCALE



CONTOUR INTERVAL: 25 FEET

## RELIEF

Relief in North Grimsby Township is shown in the block diagram (Plate III) and the contour map (Plate III). The township may be divided into two sections according to relief, viz: the lake plain and the dip slope of the escarpment. The scarp face itself has a slope of close to 100% and rises 300 feet above the lake plain. The lowest elevation is 250 feet, along the lake shore. The highest elevation on the dip slope is slightly over 650 feet above sea level.

### The lake plain

The lake plain has a slope of approximately 2% from the base of the old Iroquois Lake bar to the shore of Lake Ontario. Generally the relief may be considered as being flat. Local variations, however, do occur and are very important in tree fruit culture.<sup>1</sup>

The Lake Iroquois bar at the foot of the escarpment has a slope of close to 100%. It rises to a height of approximately 80 feet above the plain below.

### The dip slope

Because of glacial deposition, relief back of the brow is more irregular. The Vinemount Moraine has a slope of approximately 5% to the south. Across the central part of the dip slope (W. to E.) the land is very flat with less than 1% slope. The terrain rises imperceptibly to the south again. Slope is approximately 1%.

Relief and drainage are quite important in the fruit culture of the township. A more detailed study will be made in a later chapter.

1 - See Chapter on Present Agriculture.



## LAND TYPES

A land type is an area with one or more distinctive physical features which will distinguish it from an adjacent area. For example an area with a constant slope will be divided into different land types if there is a significant change in soil type. In North Grimsby Township there are five land types, delineated according to change in soils, slope or drainage.

### (1) The Lake Plain

The common features of this land type are imperfect to poor drainage and undulating relief. Although the parent materials of the soils vary, drainage and relief are sufficiently uniform to give the area homogeneity. The sandy soils are better drained compared to the clays and clay loams but tile drainage is necessary if the former are to be utilized successfully. Open ditches are left to drain the clays.

### (2) The Brow

This land type was differentiated because of the shallowness of soil profile. It occurs immediately south of the scarp face and runs parallel with it. Soil type is mainly Chinquacousy Clay Loam, an imperfectly drained soil developed on fine textured limestone till.

### (3) The Vinemount Moraine.

The slope of this land type distinguishes it from adjacent areas. The moraine forms a continuous ridge from east to west, with a slope of 5%, between one quarter and one mile to the south of the scarp face. The soil type, Vinemount Clay loam, is uniform and is moderately well drained.

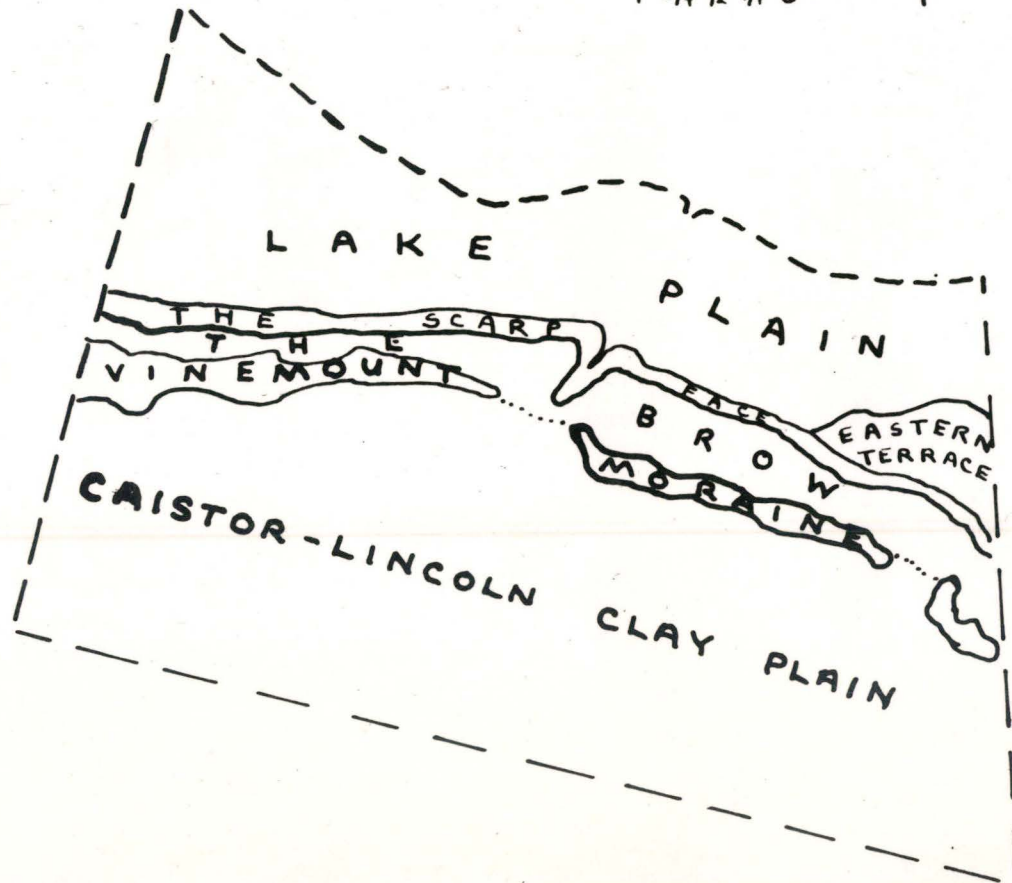
### (4) The Caistor-Lincoln Clay Plain.

The common features of this land type are similar slope and drainage. Although two or three soil types are included in this area they are all poorly drained. The whole area is flat with a slope of less

# LAND TYPES of NORTH GRIMSBY TWP.



SCALE



29.

D. MACLEOD  
1953

PLATE IV



than 1%. Some isolated sections, particularly at the southern boundary have steeper slopes and better drained soils but their total area is relatively small.

(5) The Eastern Terrace

This land type is transitional between the brow and the Vinemount land types of the dip slope. It contains imperfectly and poorly drained clays and clay loams but the depth of the soil is greater and the general relief of the area is more irregular than in either of the other two land types.

## CHAPTER TWO

### HUMAN GEOGRAPHY

#### HISTORY OF SETTLEMENT

##### THE TOWNSHIP

##### Early Settlement - 1784 - 1800

During the last quarter of the 18th Century, the township of Grimsby\* and the rest of the Niagara Peninsula benefited from the influx of United Empire Loyalists from the United States. These refugees of the American Revolutionary War made the first permanent settlement in Grimsby Township in 1784 where Forty Mile Creek empties into Lake Ontario. Here Colonel Robert Nelles from New York State settled on lot 10. In the following year, 1785, Judge Nathaniel Pettit settled on lot 9. During the next two or three years several families arrived from the United States and especially from the states of New Jersey and New York. A list of the grist mills of the Niagara District, issued by D. W. Smith Surveyor General and Augustus Jones government surveyor in 1792, includes: "A grist mill on a creek called the Forty Mile Creek, Lot No. 10, 1st concession, in the year 1789, by John Green." At one time, it is reported, this mill ground all the flour for the garrisons of Upper Canada. <sup>1</sup>

\* Grimsby township was split into North and South Grimsby between 1881 - 1891.

1 - p 220 Guillet. Early life in Upper Canada. Also, Lincoln & Welland, Historical Atlas, p VIII



In 1794 there were about 100 settlers at the Forty, as Grimsby was then called, where Green's Mill was situated. It is probable that this mill also served as a saw mill for the district.

A road had been blazed by the Loyalist Settlers as early as 1785 from Niagara as far inland as Ancaster.<sup>1</sup> By the end of the Century another road was opened from Niagara to Burlington and followed the lake shore. A third proceeded along the foot of the escarpment. Several other shorter roadways covered the Niagara Peninsula. In 1796 Mrs. Simcoe, wife of the first Lieutenant-Governor, wrote in her diary that Mr. Green had lately, "at the Governor's request and expense," cut a road on the mountain from Niagara to the head of the lake, instead of travelling upon "a most terrible road below, full of swamps, fallen trees, etc."<sup>2</sup>

The difficulties of the pioneers were increased by the famine of 1787. During that year and extending through the following year, the area experienced a severe drought which dried up wells and withered the crops. Cattle starved, small game and fowl disappeared, and fortunately the proximity of the lake prevented complete extermination of the settlement. Here the people could procure water and fish.

In summation, three or four factors operated to make this district one of the earliest settled parts of Upper Canada. The huge influx of settlers was in the first place a result of the Anti-British policies of the Thirteen Colonies. Secondly, the Niagara Peninsula was one of the two main routes open to the Loyalists and the late Loyalists. The fact that the Peninsula was intersected by well-known trails meant that the district was relatively easy to traverse. Actually the poor

1 - p. 220, Guillet

2 - p. 508-9, Ibid

condition of the trails and the few roads that did exist would influence the pioneers to settle down as soon as they had reached available land. Undoubtedly the good climate and productive soils also encouraged the early settlers to make the lake shore townships the sites for their homes.

### 1800 - 1850

After initial settlement had taken place, trade and commerce was encouraged by the continuous flow of traffic to and from the United States. During the next fifty years international economic and political policies affected the general prosperity of the township and Upper Canada as a whole. In 1808 Napoleon's Continental System made Britain turn to her colonies for lumber and naval stores, so much so that until the early 1860's timber imports from Canada were greater than those from the Baltic countries. The War of 1812-14 proved both a hindrance and a stimulus to settlement and to the economic development of the township. In the first place the area temporarily lost its able-bodied men to the army; also the township and the rest of the peninsula acted as a battleground during the war. Trade and commerce, however, were undoubtedly stimulated by this war with the United States.

"During the War of 1812 canoes and bateaus were extensively used in the carriage of supplies and men, from Quebec, and Montreal to Kingston, York, Niagara, and Amherstburg ..... " 1

One may assume that Grimsby Township shared in this traffic. It is significant to note that as early as 1816 a post office was established at Grimsby. Although the postal service was exceedingly poor,

1 - p. 427, Guillet



the very fact of its presence at Grimsby shows that the settlement had passed its initial pioneering stage.

### 1850 - 1951

The following table gives the population of North Grimsby Township from 1851 until 1951. It must be remembered that until 1891 North Grimsby was included in the larger Township of Grimsby. The figures do not include the town of Grimsby.

<u>Year</u>	<u>Population</u>
1851	2448
1861	3005
1871	3123
1881	2416
	North Grimsby Twp
1891	1095
1901	1312
1911	1758
1921	2151
1931	2004
1941	2151
1951	2973

The population shows a steady increase except for the years 1881 and 1931. A possible reason for the decline in 1881 is the opening up of Western Canada by the railway and so competition to grain farming in Eastern Canada. The 1930's experienced the Great Depression and the resulting migration of many farmers to the towns and cities or back to Europe and the United States.

The second half of the 19th century saw a change from mixed farming to commercial fruit culture <sup>1</sup> and so an accompanying change in activity in the township. Although fruit culture had been well established since 1800, the first commercial peach orchards were planted in 1856 by Mr. A. M. Smith and Mr. Charles Woolverton. The descendants of the early pioneers prospered by the introduction of the fruit industry;

<sup>1</sup> a more detailed account of the history of agriculture will be given in a following chapter.

Nelles, Pettit, Merritt, and Clark are names which are still important in fruit farming in the township. The fruit canning factory in Canada was established in Grimsby in 1865. Thus the tone of present day activity in the township was established in the 1850's and 1860's. The growth of the town of Grimsby was also stimulated by the fruit industry.

### 1900 - 1953

The 20th century has seen little change in the settlement pattern of the Township, except for the introduction of non-Anglo-Saxon ethnic groups on a larger scale. The following table <sup>I</sup> gives the birthplace of the inhabitants of the township (excluding Grimsby). An arbitrary base of 20 was taken as the minimum number in each ethnic group. As may be seen English, Irish, Scottish, Americans, and natural Canadians were predominant until the turn of the century, when an influx of Germans, Dutch, and later, in the 1930's Ukrainians, Polish, and Czechoslovakians, occurred. These settlers have proven to be very industrial and frugal farmers. It is rather interesting to note where these last ethnic groups have settled. The newer Dutch are to be found mainly on the ridge road, and south of it above the escarpment, for about one mile, to the west of the Woolverton side road. The Ukrainian, Polish, Czech groups have settled largely along the No. 8 highway at the western end of the Township. Interesting also, but not too significant, is the fact that in both areas grapes are the dominant type of fruit grown. Several farms to the east of the town of Grimsby are also occupied by Slavonic peoples. On the dip slope to the east of the Woolverton road and from the ridge road to the southern boundary of the township there is no definite pattern in the ethnic grouping.

I See Appendix D, p 92.



## The Town of Grimsby

The history of the town up to the middle of the 19th century is largely concerned with its functions as a grist and saw mill centre, a link in the road network that went from the Niagara River to the head of the lake and thence on to Montreal, and a service centre for the Township and surrounding area. It is not known if there were any actual shops or stores during the first decade of the 19th century at the Forty, as the first settlement was then called. Several of the pioneers, however, had shops on their farms. There is also a blacksmith shop marked on the map that Mrs. Simcoe, wife of the governor-general, sketched of the Forty. The settlement also had a small school.<sup>1</sup>

During the 1812-14 war with the United States, the small settlement became the centre of intense activity. In 1816 the post office was established and soon after the name of the village was changed to Grimsby, after the small fishing centre in Lincolnshire, England. The construction of houses according to streets was begun about 1824 but over fifty years elapsed before incorporation took place.

By 1850 the fruit industry had assumed a greater importance in the Niagara Peninsula, and along with this the village of Grimsby developed. The following table gives the population of the town of Grimsby since 1852.<sup>2</sup>

<u>Year</u>	<u>Population</u>
1852	300
1876	600
1881	692
1891	883
1901	1001
1911	1669
1921	2004
1931	2198 (cont'd)

1 - p. 36 Powell, Annals of the 40

2 - 1852, Coombs, Niagara Peninsula and Welland Canada, p.102  
1876, Lincoln and Welland Atlas, p.VIII  
1881-1941, Census of Canada  
1951, Hamilton Spectator, p.21 May 19, 1951  
1952, Township Office, Grimsby

<u>Year</u>	<u>Population</u>
1941	2331
1951	2773
1952	2934

Smiths "Canada" published in 1852 containing a directory of business and professional men in Upper Canada. In Grimsby at that time, the following business establishments were in existence; two general merchants, two lumber merchants, a brewer and distiller, a miller, a post office and a customs office. Grimsby also had two churches, Episcopal and Presbyterian.

Thus the village for the first few years remained as a service and milling centre for the township; its function changed during the next twenty-five years. The first canning factory was established in 1865, a second in 1880. The Lincoln and Welland Historical Atlas (1876) shows that Grimsby had the following industrial, commercial and cultural establishments in that year.

Industrial: one brewery, one fruit canning factory, two carriage makers, one harness maker, two saw mills, and two grist mills.

Commercial: two taverns, three merchant shops, two butcher shops, one druggist, one tinshop, two boot and shoe shops, two grocers, three doctors, two surveyors and one conveyancer.

Cultural: one high school, one public school, one Mechanics Institute, one lodge of the Good Templars, one public hall, one drill shed and four churches.

A station of the Great Western Railway had also been built in Grimsby.

In this year Grimsby was incorporated as a village and had a population of approximately 600.



The 20th century saw the complete change of the town to its function as a centre for the fruit growing industry. In 1910 the first fruit pre-cooling plant in Canada was built at Grimsby. In 1927 the following products were manufactured in the town; fruit baskets, motor tubes and supplies, furnaces and castings, ties and mufflers, artificial ice, hospital, furniture and medical and dental supplies, electric stoves, irons, toasters, steel chairs and tables, planing mill supplies and building materials. In addition fruits and vegetables were canned. Total sales of manufactures was close to \$ 1,500,000.

Thus the town has shown three stages in its function; firstly as a grist and saw mill centre; secondly, as a milling and canning centre, and thirdly, as the centre of the fruit canning and small industry.

## CHAPTER THREE

### PRESENT DAY SETTLEMENT

#### RURAL SETTLEMENT PATTERNS AND RELATED FEATURES

Rural settlement in North Grimsby Township shows, a marked contrast between the lake plain and the southern half of the township both in the type of farm and the degree of activity found in each area.

#### The Lake Plain

No. 8 highways forms a link between the many small settlements along the Niagara Peninsula. In North Grimsby Township this highway forms a typical ribbon pattern of settlement with an almost continuous line of farms and homes from one end of the township to the other. In recent years many fruit growers have sold lots fronting on the highway for new housing surveys or for single homes. As one approaches Grimsby from either the east or west, the houses become more numerous and closer together so that it is hard to tell where the town begins and rural settlement ends. Most of these houses are first and second class and have behind them the large orchards with which they are connected. The other farm houses along the highway are third class. The fruit farms are generally less than 50 acres in size.

Commercial establishments are restricted to small snack bars and service stations. To the east of the town a motel is open during the summer months.





FIG 7. Farm Service Camp. Small huts at left are sleeping quarters. Large building in centre is the dining hall.



FIG 8. First class home on No. 8 highway.



FIG 9. Queen Elizabeth highway. Note the heavy traffic.



FIG 10. First class motel on the Queen Elizabeth highway.



Industry along the highway includes a canning factory, a chick hatchery and two florists.

A Farm Service Camp, open in the early summer, provided female labour for the fruit growers of the township. Originally this camp was an Ontario Government project, but in the last few years the local growers have taken over its supervision. Unfortunately the quality of labour has become increasingly poor, so much so that the camp was closed in the summer of 1952 just after the cherry crop had been picked.

The Queen Elizabeth Highway, in contrast to No. 8 highway, has relatively little settlement or commercial establishments. This four lane highway provides a faster route between the cities and towns found on the Iroquois Lake Plain. Thus the traffic along the Queen Elizabeth Highway may be considered as being essentially "through traffic", that is, a very small percentage of it is concerned with North Grimsby Township or with the town of Grimsby.

Two excellent motels and one large gas station are found along the Queen Elizabeth Highway.

The lake shore has a continuous ribbon of settlement composed alternately of fruit farms, summer cottages and tourist cabins. An important concentration of summer cottages and permanent homes is found at Grimsby Beach, about one mile east of the town of Grimsby. This settlement started as a Methodist Camp in 1859 and functioned in that role until the turn of the century when it became an amusement park. At one time the Beach used to have two hotels but these have since been destroyed. The holiday seekers in later years have turned to Ontario's Northland, and so Grimsby Beach no longer enjoys its oldtime popularity. Nevertheless, the population of the Beach is approximately 1000 during the summer months and 70 families occupy permanent homes in the park. About 90% of the



FIG 11 A typical farm on the fruit belt on the lake plain.



FIG. 12. One of the poorer farms located in the second zone on the dip slope.



cottages are owned by the people who utilize them.

Activity at the Beach is supervised by a cottagers association. One man has served as "mayor" for over 40 years. There is, in addition, a recreation committee which looks after dances, swimming contests, and other community activities.

All roads in the Park are privately owned. The cottages are mostly frame, two stories high and are generally in need of repairs. Water supply is obtained from the township which in turn buys it from the town of Grimsby. The cottagers buy their food in the town.

Although the association can prevent public bathing at the beach. Little action is taken to restrict the large crowd from using the beach during the summer months. The beach thus serves as a convenient recreational area for the less fortunate families of the township and town.

#### The Dip Slope

Three zones of settlement are recognized on the dip slope of the escarpment.

(1) The brow, which is essentially a continuation of the fruit belt and shows an almost continuous ribbon of settlement along the ridge road. Farms are small, approximately 50 acres or less.

(2) A zone running east and west through the middle of the dip slope. This area is devoted chiefly to dairy farming. The farm buildings are in extremely poor condition. The soils are heavy and imperfectly drained. This zone appears to be the poorest section of the township.

(3) The road along the southern boundary of the township has another continuous line of farm houses but these are more widely spaced

than the houses found in the fruit belt. The soils are better drained and more productive in this zone as compared to the soils in (2). This is reflected in the better condition of the farm buildings.

The size of the farms in the last two zones average between one hundred and one hundred and twenty acres. The better kept farms generally have ten to twelve holstein cows, two horses, and a variety of other livestock which may include one or two pigs, one or two sheep, or twenty to thirty hens.



## CHAPTER FOUR

### AGRICULTURE

#### HISTORY OF AGRICULTURE

There are at present two distinct types of farming areas in North Grimsby Township, the fruit belt and the mixed dairy farming section. A study of the history of farming in the township will indicate when this division took place.

All of the fruits except peaches were present when the first settlers arrived.<sup>1</sup> The year when the first commercial orchard appeared is not clearly established however. One source states that orchards were being planted as early as 1800.<sup>2</sup> Another claims that the first commercial peach orchard was established in 1856 in the Grimsby area.<sup>3</sup> One can assume, however, that other types of fruit were being grown commercially prior to this date.

Apparently the early settlers concerned themselves little with the many wild fruits that were present in the area and cultivated new orchards mainly for domestic consumption. Guillet states that "many settlers who had orchards paid little attention to them, sometimes leaving the fruit to the pigs."<sup>4</sup> By 1851 only 151 acres were devoted to gardens and orchards (Appendix A). Grain growing was predominant, with wheat and oats leading in acreage. Peas, beans, and potatoes were the principal

1 - p. 30, Coombes

2 - Lincoln and Welland Historical Atlas

3 - P. 160, Coombes

4 - p. 197, Guillet

vegetables. Livestock -- cows, pigs, sheep, and horses -- were also raised.

It must be remembered that the area included in Grimsby Township until 1891 consisted of the present day Townships of North and South Grimsby. Therefore, the figures for the years 1851, 1861, 1871, and 1881 in the Appendices are not those of N. Grimsby Township alone. They are however still useful in a comparative study of the acreage devoted to field crops and the acreage devoted to fruit.

The years between 1851 and 1881 witnessed a sudden increase in the number of acres of fruit. Several factors account for this increase. The fact that the soils and climate were suitable for intensive fruit growing was important then as it is now and so is not strictly an historical factor. However, with suitable soils and climate, the growth and expansion of the fruit orchards was possible.

The establishment of the Great Western Railroad (C.N.R.) in 1853 provided a fast and inexpensive method of shipping the perishable fruit long distances. Thus markets could be found outside of the local area. The establishment of Canada's first canning factory in 1861 at Grimsby also encouraged fruit growing because any surplus could be handled. In 1863 the wheat crop was destroyed by insect pests and it is reported that in the following year the farmers were turning more and more to the growing of fruit.<sup>1</sup> Around the same time the government investigated the cultivation of the grape with a view to its development in the fruit belt.<sup>2</sup>

Thus we may say that by 1865 fruit growing had changed from its early local nature into a definite industry based upon large commercial

1 - p. 265, Landon, Western Ontario and the American Frontier

2 - ibid



orchards. The acreage devoted to fruit increased from 151 acres in 1851 to over 2900 acres in 1911, or over 19 times in 60 years. (Appendix A.)

The 20th century has seen a steady increase in fruit acreage. The number of acres devoted to pasture and field crops has in the meantime remained relatively stable, while the area in woodlot has declined slowly. (Appendix B). It is interesting to note that the aerial photographs used in the field work were at least 15 years old, and yet about 20 acres only were cleared of woodlot in that period. Also, the distribution of orchard and vineyard has experienced only minor changes.

As may be seen in Appendix C the size of farm has undergone considerable change. The larger farms, that is over 50 acres, have declined in number because of the division of fruit farms into smaller units. The mixed-dairy farms constitute the majority of larger farms; the average size (100-120 acres) of such farms has remained relatively stable, within the last 50 years as may be seen from the fact that there are very few new farms in the southern section of the Township.

In summary, it may be said that although fruit was present in the Township even before white settlement, the fruit growing industry as we see it today is a result of sudden change coming after the development of the railroad and the establishment of a canning factory in the area.

## PRESENT DAY AGRICULTURE

The land utilization map of North Grimsby Township is given in Plate IX.<sup>1</sup> The field work was carried out during the summer and fall of 1952. Most of the summer was spent on the Lake Plain while the dip slope of the escarpment was mapped during the late summer and fall. Thus the chief problem was found in the mixed farming area in the southern part of the township where, due to the lateness of the season, it was difficult to establish the type of field crop which had been grown during the summer. Identification was made from the stubble or by personal inquiry. Under the circumstances, 100% accuracy in determining the land use on the dip slope was not possible.

The township may be divided into two sections according to land use, the fruit belt on the lake plain and on the first few hundred feet of the dip slope of the escarpment, and the mixed-dairy farming in the southern area of the township. However, the fruit culture is so closely related to soils, temperature, and drainage that present agriculture in North Grimsby Township is best studied according to land types. The author therefore wishes to stress the importance of the soil map, plate VIII, this study as well as the land type map (Plate IV).

### The Lake Plain

The Lake Plain is the chief fruit growing section of the township and has the greater variety in the type of fruit. The most important fruits are grapes, plums, pears, peaches and cherries. Strawberries, raspberries, and black currants are also found. There are, however, only a few fields devoted entirely to small fruits. Raspberries and black currants are generally found between the tree fruits, occupying



the space in between each tree.

The Grape. The grape vines are located chiefly on the Trafalgar clay and virgil clay loam soils of the township.

Since the grape likes heat, the general aspect of the vines is north-south so that the fruit obtains the maximum benefit from the sun. The most favourable locations are back from the lake shore where spring and summer temperatures are often a few degrees higher than those close to the lake. However, at the foot of the escarpment, the temperature may be five and six degrees lower, depending somewhat on the direction and force of air currents, and so late spring and early fall frosts are especially dangerous. Thus plums and pears may be found at the foot of the escarpment.

Good air circulation is essential both for the fight against diseases and the prevention of frost injury to the grape. In the grape growing section of the Lake Plain the land slopes gently to the north.

To provide good soil drainage for the vineyards, the slope of the terrain need not be too great, merely enough to carry away surface water. In the Niagara district grapes are often planted on the poorest soil on the farm because the grape will withstand heavy texture, poor drainage and shallowness better than that of any other fruit crop grown in the area.

Limited cultivation is advised in the vineyard, but such cultivation should cease by the first of July. Cultivation in the spring does not start until the soil is properly tillable. Fall ploughing is discouraged because the open condition during the winter is conducive to erosion.

Farmyard manure is used as a fertilizer for the vineyards. Artificial fertilizer and green manure crops are not yet in general use.

The grape leaf hopper is the chief insect pest and dead arm the most widespread disease of the grape vine. The varieties of grape grown



FIG 13. A vineyard located at the foot of the escarpment. The vines are facing north-south. Note the gradual slope.



FIG 14 A plum and peach orchard. Plum trees, centre, are on lower ground. Peach trees to right and left foreground.





FIG 15. Another example of the importance of drainage to peaches. Peach tree in the foreground. Plum trees on lower level in the back.



FIG 16. Pear trees left unpicked due to lack of markets.

are the Concord and Seibel. Maturity dates range between the 12th of September and 29th of October.

Peaches. Peaches are most exacting in their requirements, with good natural drainage being perhaps the most important edaphic factor. The peach orchards are found on the Vineland sandy loam soils of the Lake Plain. These sandy soils are sufficiently open to allow good internal drainage, and so permit the roots to breathe freely, and prevent excessive external drainage. Slope of the terrain is also extremely important since frost pockets are particularly dangerous to peach trees. Peaches are not found in steeply sloping ground or at the bottom of depressions. Even where a field will have relatively insignificant depressions the lower parts will be occupied by pear or plum trees. Often there is only enough room for one tree in each hollow.

The cultivation and care of the soils is very important in peach orchards. Cultivation of a short annual period, green manuring, plus farm manure where available, are recommended practices. Peach trees require from four to six feet of soil and usually a planting distance of 22 feet by 22 feet.

Nitrogen, potash, and phosphates are applied separately on soils where tree fruits are grown. The nitrogen is usually applied as an early spring application while the minerals are applied in the late fall. Abundant quantities of manure or hay or straw are the most widely used fertilizers, and are applied at the base of each tree.

Pears, plums, and prunes are found on a variety of soils on the Lake Plain, on the Virgil and Jeddo clay loams and the Trafalgar and Beamsville clays. They are also found on the lower slopes and depressions of the sandy soils. Plums seem to be the most tolerant of the tree fruits, and thrive even on fairly heavy textured clays.



Cultivation and fertilizing practices are similar to those for peaches, except that less consideration is given for good drainage. Nevertheless even these fruits can suffer from incomplete drainage and often artificial means must be used to drain away excessive sub-surface water.

Many plum and pear trees were left unpicked this year because of the lack of markets for the fruit.

Cherries. Cherries, like peaches need deep, well-drained warm, sandy or gravelly soils. They are found on the Clinton, Vineland, and Winona Sandy Loams. Both sour and sweet cherries are grown.

In addition to the orchards, single rows of cherries are often found bordering orchards of other types of fruits. This makes it easier to get at the cherries and provides a wind break for the orchards which the cherry trees surround.

The Township saw an especially good crop of cherries in the 1952 season because of the lack of heavy, fruit-damaging rains and the abundant sunny, ripening days. In 1951 the crop was left on the trees because of severe skin damage to the cherries caused by the rain.

In all of the above fruits pruning is necessary and keeps the fruit grower busy during the winter months.

There are only a few small apple orchards in this land type area. Apples have declined in importance because of the competitive markets in other parts of Canada.

A few fields of hay were in evidence in the Lake Plain. Most of the hay is sold to the dairy farmers on top of the escarpment.

Only three or four dairy cattle were seen on the Lake Plain. Several idle fields were also mapped. These are a result of neglect and the encroachment of housing.

### The Brow.

On this land type area there are a variety of land uses with orchards, vineyards and pasture predominating. Of these grapes, plums and pears are the most common types of fruit. One or two sour cherry orchards were found. Idle fields are also quite common. Three factors are operative in restricting peach and sweet cherry growth; low temperatures lack of deep soil and poor internal drainage. Temperatures are however sufficiently high to permit the growth of pears plums and grapes.

Farmington Clay is the dominant soil type in this area. It is a very shallow soil. Where the soil is only one or two inches deep the land is given over to permanent pasture or left idle. The rest of the soil lies in the Chinquacousy clay loam soil type and is heavy in texture and imperfectly drained. It is upon this soil that the Vineyards and orchards are to be found. The general appearance of the trees and the fruit is not, however, as good above the escarpment as below.

### The Vinemount Moraine.

To the west of Beamer's Falls the Vinemount Moraine follows the escarpment at about a distance of four hundred to seven hundred feet back of the brow. The ridge road runs along the top of this belt of moraine. West of Beamer's Falls, the moraine is farther back from the edge of the escarpment. The soil type is Vinemount Clay Loam, a dark brown to grayish brown loam, somewhat hard and subject to cracking when dry. Owing to its nature it usually drains easily as the grit and gravel, well mixed with the greater part of the soil, tend to keep it relatively loose and open. The subsoil, however, is hard and impervious to water.

Actually agriculture on the Vinemount Moraine land type is a transition stage between the dairy farming to the south and the mixed fruit





FIG 17. Drainage ditch in the Lincoln-Caistor Clay plain. Size of lecture board approximately 10" x 12".



FIG 18 Much of the land left in the Lincoln Caistor clay plain is in rough pasture.

area along the brow of the escarpment. Land use in the eastern part of the land type is devoted mainly to grapes. Plums and pears are also found to the north and south of the ridge road. A few fields of hay and pasture and a large chicken farm make up the rest of the land use.

The eastern section of the moraine has a more varied land use. Grapes, although still predominant are less so than to the west. Plums and pear orchards have increased in proportion. As well there are a few cherry and peach orchards, where patches of Virgil clay loam replace the Vinemount loam. Strips of cultivated land also become increasingly more numerous as one approaches the southern slopes and eastern end of the moraine.

It is along this Vinemount land type that the best farm land of the dip slope is found. This fact is reflected in the better condition of the farm houses as compared to those farms in the southern sections of the township.

#### The Lincoln-Castor Clay Plain

Extremely poor drainage and heavy textured soils have prevented intensive cultivation in this land type. Land use is devoted to general farming with a strong emphasis upon dairying. Vineyards and a few small orchards of pears and apples are scattered throughout the area. The vineyards are small, however, and are apparently only a sideline to the dairy farming. The risk of growing grapes is very high in this area due to the danger of frost damage. Apples and pears are more tolerant to low temperatures. Thus the area may be considered as another step towards the complete transformation from the fruit belt of the Niagara Peninsula to the mixed-dairy farming of the Lake Erie Region.

Large sections of this type are left idle, scrub and woodlot. A comparison of the contour map with the land use map shows the close



relationship of these three uses with the lower lying terrain of the Forty and Thirty Mile Creeks. The wood lots contain trees of second and third growth and form the source of the farmer's winter fuel supply.

Pasture and Permanent pasture form a large proportion of the land use. Less productive land, especially surrounding the wood lot areas, and bottomland are left as permanent pasture. The rest of the pasture land and the fields mapped as fallow are associated with the four year rotation of (1) fall wheat, (2) spring grain, (3) hay, (4) pasture, carried out in this area.

The cultivated crops found on this land type are fall wheat, oats, barley, corn, rye, hay, alfalfa and clover.

These crops are found on soils developed on lacustrine materials. The terrain is gently undulating. The soils are generally very low in organic matter, and extremely acid in reaction.

The fall wheat is given a favoured place in the crop rotation (~~above~~). In spite of this, the crop does not seem to do too well because of the poor drainage. Where possible, the winter wheat occupies land with a gentle slope throughout the entire area. Since the crop must pass the winter in the ground, it is imperative that no water should be allowed to stand on any part of the field either during the fall or spring as killing will result. Open furrows are left in the lower parts of the winter wheat field, immediately after seeding, to prevent water from lying on the area. Where the whole field is low and poorly drained narrow strips about 20 feet wide are left with deep furrows at each side, and idle.

The winter wheat sown in the fall of 1952 suffered from the extremely hot summer, and up to November the fields showed only one or two



inches of growth. Some of the wheat is sold as seed and some is sent to the grist mills.

Oats and barley in North Grimsby Township are grown both separately and together and comprise the chief grain crops. Most of the spring grain is grown as a mixture. It seems that mixing the grains will give a larger yield per acre than either oats or barley grown separately. One farmer sows a 1:3 ratio and harvests 3:1 ratio. The mixture recommended by the Ontario Agricultural College is equal amounts by volume of oats and barley and the mixture sown at  $2\frac{1}{2}$  bushels per acre. Such mixtures and almost all of the oats and barley in the Township are grown for feed only. The grain of the oat has a higher ratio of protein to carbohydrates content than barley and is therefore used in preference to barley as a feed for growing animals and especially for cattle and horses. Barley, with a higher percentage of carbohydrates, is used chiefly for feeding hogs. Oat straw is the more nutritious of the two and provides roughage in maintenance rations for horses, cattle and the few sheep in the Township.

Oats and barley often follow a winter wheat crop and generally precede a hay crop. Oats is a better crop to use as a second grain crop in the rotation when the grains are grown separately because it does not require as high fertility as barley.

The oats and barley in North Grimsby Township are grown on heavy textured, low lying, poorly drained soils developed on lacustrine materials. The early heavy spring rains of 1952 did considerable damage to the spring grains. The water could not drain away properly and allowed the stronger ragweed to grow rapidly, much to the detriment of the oats and barley. One farmer reported that after sowing 50 bushels of oats only 205 bushels were returned. Several fields of stunted oats and barley were left uncut.



These soils are also acidic in nature and require applications of lime. On acidic soils barley will benefit more than oats by the application of lime. One farmer applies 40 tons of lime to 20 acres and this single application lasts for 6 or 7 years. He claimed that the increase in one year had paid for the cost of the lime. He does not use manure.

This same farmer, who incidently grows only oats and barley on his farm, follows this plan in preparing the soil for his crops. After harvesting the summer's crop, he deep ploughs the fields and immediately prepares it for seeding, and leaves it in such a condition over the winter. He claims that the surface water can clear quickly in the spring. Highest yields have been obtained when oats and barley were sown as early as soil and climatic conditions permit. Actually one farmer interviewed was of the opinion that chances of decreased yields due to late planting are much greater than the chances of injury from frost.

A few fields in this land type are devoted to corn which is grown partly for feed and partly for human consumption. The amount is relatively insignificant.

Only one section had been sown with rye, However, it was approximately 200 acres in size. This area and the fields for half a concession on either side and all the land to the edge of the escarpment is owned by one man, and worked by Dutch immigrants. The rye had been left uncut; apparently it had suffered also from the heavy spring rain.

From the condition of the farm buildings one would get the impression that this is a very productive area. However the question arises as to whether this is a true indication of actual conditions. First of all the fact that the soils and their inherent characteristics are the same as the soils to the east and west suggests that large sums must be spent on conditioning and fertilizing if they are to be productive.



However the poor crops of rye, oats and barley is an indication that incomplete drainage and heavy texture are adversely affecting the productivity of the fields crops in this area as in other parts of the land type.

In addition to the field crops one or two large pig farms and the chicken farms mentioned in the second land type are included in the farms owned by this one man. Hogs are expensive animals to feed since large quantities of commercial feeds are required. Certainly the return from the crops grown on the farms do not cover such costs. It is hard to see how this venture of large-scale farming is profitable considering the initial heavy capital expense. Two factors may tend to balance this situation. Firstly, his returns from the fruit growing section are fairly reliable. Secondly, the labour is cheap. In either case there is an artificially induced prosperity in which the appearance of the farm does not reflect the productivity of the land.

The largest proportion of arable land in the Lincoln Caistor Clay Plain has been devoted to hay, alfalfa, and clover. These three crops are used as forage for the livestock. The place of hay in the four year rotation has been given previously. A crop of alfalfa or clover when cut for hay or grazed will add fertility to the soil to the amount taken out by a crop of wheat and a crop of oats. Thus a three year rotation of wheat oats and clover should maintain the soil's productivity.

A typical dairy farm on the escarpment has 12 to 20 cows, and two or three horses. Occasionally these farms have one or two goats, a few pigs or a few sheep and about 20 chickens. Surrounding the farm house are about a dozen pear or plum or apple trees and a small vineyard. The average size of the farms is 120 acres, almost three-quarters of which is devoted to oats, barley, hay, other forage crops and pasture. Occasionally



there will be a few bee hives to provide for the pollination of the legume crops and vineyards. It is rather strange that during field investigations several colonies of bees were noted above the escarpment while only one or two were seen in the fruit belt. Apparently colonies are moved into the Niagara Peninsula each spring for orchard and vineyard pollination.

#### The Eastern Terrace.

The agriculture on this land type consists chiefly of tree fruits, with all varieties represented, and vineyards. One large hay field and another of oats and barley completes the agricultural picture. There are three soil types which are also found above the scarp face; Vinemount Clay loam, Chinquacousy Clay Loam and Farmington Clay.

On the whole the productivity of the fruit on the eastern terrace appears lower than that either above or below the escarpment. As a matter of fact the large idle field was formerly an orchard.

#### The Scarp Face

This land type is completely covered by woods except for three or four small orchards of cherries, apples, pears and plums, at the western end. The general appearance of these fruits is also poorer than those found in the fruit belt.

## A COMPARISON BETWEEN FRUIT GROWING AND MIXED-DAIRY FARMING

The two types of agriculture in North Grimsby Township have been studied with respect to land types, showing the relation of crops to physical factors such as soil type, slope, drainage and climate. Thus the distribution of crops has been studied. There are also contrasts between the two which cannot be related to physical factors or distribution. These differences are more economic in nature.

The fruit grower is faced with considerable expense in all phases of fruit production. The cost of land, without trees or buildings is extremely high, often over \$1,000 per acre. After this initial expense the grower must wait up to six years for any returns from an orchard. The dairy farmer however will pay about \$ 50 per acre and obtains near maximum returned after one or two years. His high initial expense is involved in the purchase of livestock.

In recent years there has been an increase in cost of materials. For example, in 1941 grape vine was 18¢ per lb. By 1952 the cost had tripled to 52¢ per lb. Baskets in 1941 cost  $3\frac{1}{2}$ ¢ each, in 1952 they cost 11¢ a piece. On top of these expenses there are from three to nine sprays needed for each orchard, depending upon the orchard and the weather. The dairy farmer does not face such costs of material. He need not buy any expensive machines for the first few years. As well, most of the materials he uses are of a permanent nature, that is, once the initial expense is met, the only costs involved are in maintenance and devaluation.

Labour expenses also show extreme contrasts. The fruit grower today is faced with an inefficient labour force. This was clearly evident in 1952 when the Farm Service Camp was closed because the girls worked just



hard enough to cover their expenses. Furthermore the fruit must be picked at the right time to insure best quality. Without the right amount of labour at the right time, the fruit grower faces disaster. The dairy farmer, on the other hand, does not require a large labour force. Tractors and other machines have cut down the time and labour necessary on the dairy farm. Often one man does all the threshing for a number of farms in one area.

Market problems also harass the fruit grower. Certain fruits such as grapes and cherries always find a ready market, but the returns from pears, plums, and peaches fluctuate considerably because of the lack of markets. In 1952 many pear and plum orchards were left unpicked.

Two main factors may be found to account for the lack of markets. The most important reason is a change in eating habits has occurred over the past 10 or 15 years. Today less fruit is home canned than before. There has been an increase in the consumption of American citrus fruits to the point where the local industry is feeling the competition. Furthermore, transportation costs have kept distant Canadian markets closed to fresh fruit.

The second reason is in part a result of the first. A decrease in fresh fruit consumption has meant that more fruit goes to the canners. With modern storage facilities a bumper crop in most types of fruit can be held over until the next year. Thus the fruit grower may not be able to market his surplus to the canners. Also, canned fruit can be kept over a long period of time.

Dairy products, however, always find reliable markets and milk has not become popular in its canned or dehydrated forms.

Therefore the risks of fruit growing are greater than dairy

farming both with respect to physical and economic factors. As a result the fruit farm is smaller and the land more intensively utilized.

At first glance the contrast in activity between the two areas seems to be entirely the result of the disposition of transportation routes. The lake plain has the three main east-west lines of communication while the dip slope has only one paved road running north-south (Plate VII) connecting the town of Grimsby with No. 20 highway. The underlying causes, however, go deeper than this. Essentially the difference in the degree of activity is a reflection of the difference in the type of agriculture. Fruit growing demands a good labour supply, good transportation facilities and markets. The absence of any one of these factors can spell disaster to the fruit grower, no matter how excellent the crop may be. The dairy farmer however, is less dependent upon all three factors. He supplies most of his own labour, his market is always assured and since it is generally not too far away, his transportation problems are not great. In a restricted sense, also the dairy farmer is self-contained, in that most of the products of the soil are used on the farm. The greatest percentage of acreage is devoted to crops which are grown to feed the livestock. Therefore a comparison shows that the fruit farmer is continually in contact with activities outside of his farm while the dairy farmer is more isolated from the rest of the community. The fruit farmer must have the transportation facilities if he is to market his produce. Fortunately, on the lake plain the essential road and rail routes have developed along with the many concentrations of settlement which are to be found between the head of Lake Ontario and the Niagara River.



## CHAPTER FIVE

### THE TOWN OF GRIMSBY

#### PRESENT DAY SETTLEMENT

The Town of Grimsby is the largest town between St. Catharines and Hamilton. Situated on the lake plain where the Forty mile Creek empties into Lake Ontario, it is an important centre for the fruit growing industry of the Niagara Peninsula.

The Forty Mile Creek forms the nucleus around which the town has grown. Expansion east and west has been determined by two factors. The presence of the escarpment has hindered the town from expanding south and Lake Ontario has prevented growth to the north. The 20th century and particularly the last two decades has seen a filling in of the remaining vacant property within the municipality's boundaries. Today almost all of the land <sup>is</sup> occupied so that expansion outside of the town has been proceeding at a fast rate. As a matter of fact, annexation of adjoining territory is inevitable and constitutes one of the main problems of the present day planning board.

#### Commercial, Industrial and Residential Areas.

The No. 8 highway forms the commercial retail section of the town. As may be seen from the plan of the main street, this section contains all types of stores necessary for the needs of the townspeople. Shoppers whose tastes are more particular will go to Hamilton, Buffalo, and even Toronto for their needs. Exclusive clothing shops are lacking



FIG 19. An aerial view of the town of Grimsby.



FIG 20. Main Street, Grimsby, the commercial-retail section of the town.





in the town. The Grimsby commercial retail section serves an area extending to Jordan Harbour on the east, Winona on the west and Smithville to the south. The western limit is restricted by the proximity of Hamilton, the eastern boundary by Niagara Falls, and St. Catharines.

The accompanying diagram shows the type and class of store on Main Street. Each is classified according to size of business and condition of the building. Only three, a ladies' and Mens' wear, a super-market, and a bank are new and could be considered as first class establishments. The Village Inn is also first class because of its excellent accommodations for banquets and receptions.

From the diagram one can see that the town offers a good variety of services. The relatively large number of restaurants are kept busy in the summer by the tourist trade and by the part-time labourers employed in the fruit belt. They are maintained during the winter by the fairly steady flow of traffic between centres on No. 8 highway. The many real estate offices suggests that there must be a large number of buildings and farms sold each year. Many farmers have already sold highway frontage on their farms.

A few small grocery and confectionary stores are scattered throughout the town. Depot Street running to the north off Main Street has a barber shop, paint and plumbing store, a grocery store and a ladies shop. This street will probably form the future secondary shopping street.

Throughout Grimsby are various services such as building contractors, plasterers, decorators, electricians, plumbers and truckers. Many of these are occupations conducted on a part-time basis.

### Industry

Industry is located mainly along or close to the Canadian National Railway main line from Hamilton to Niagara Falls. The following industries are located near the railway: Grimsby Stove and Foundry Ltd.;





FIG 21 Most of the industry is located near the rail line.  
Left, Metal Craft Co. Ltd., Right, Niagara Packers Ltd.



FIG 22 A lumber yard on the Canadian National Railway main line.

Brock Snyder Ltd.; electrical appliances; Merrit Basket Factory; Canadian Carners (2 plants); Growers Cold Storage and Ice Co.; Niagara Packers Ltd.; fruit shippers and coal dealers; Metal Craft Ltd., manufacturers of hospital equipment; Pittsburg Water Heater Co.; Grimsby Flour and Feed Co.; Peninsula Lumber and Supplies.

United Distillers have a bottling plant south of Main Street. A winery, Grimsby Wines, is found on No. 8 highway, east of the commercial retail section.

In addition to canning and fruit processing industries, Grimsby is beginning to attract light industry. Two German firms, one a manufacturer of automobiles and light trucks, the other a manufacturer of precision instruments, have taken option on land along the railroad track to the east of the town limits. Good rail and road connections to other centres of Ontario and to the heavy industry of Hamilton, the presence of good water works system and a good labour supply have all combined to make Grimsby an advantageous location for light industry. The town, on the other hand, will benefit from the fact that new industry will provide work for the younger people who are leaving the town for work elsewhere. New industry, of course, will stimulate local trade and the general development of the town. Since the land is outside of the town boundary, annexation is necessary if water and sewage disposal services are to be provided. Again, it must be remembered that the price of land is high in the fruit growing district and this might prove to be a deterrent for new industry.

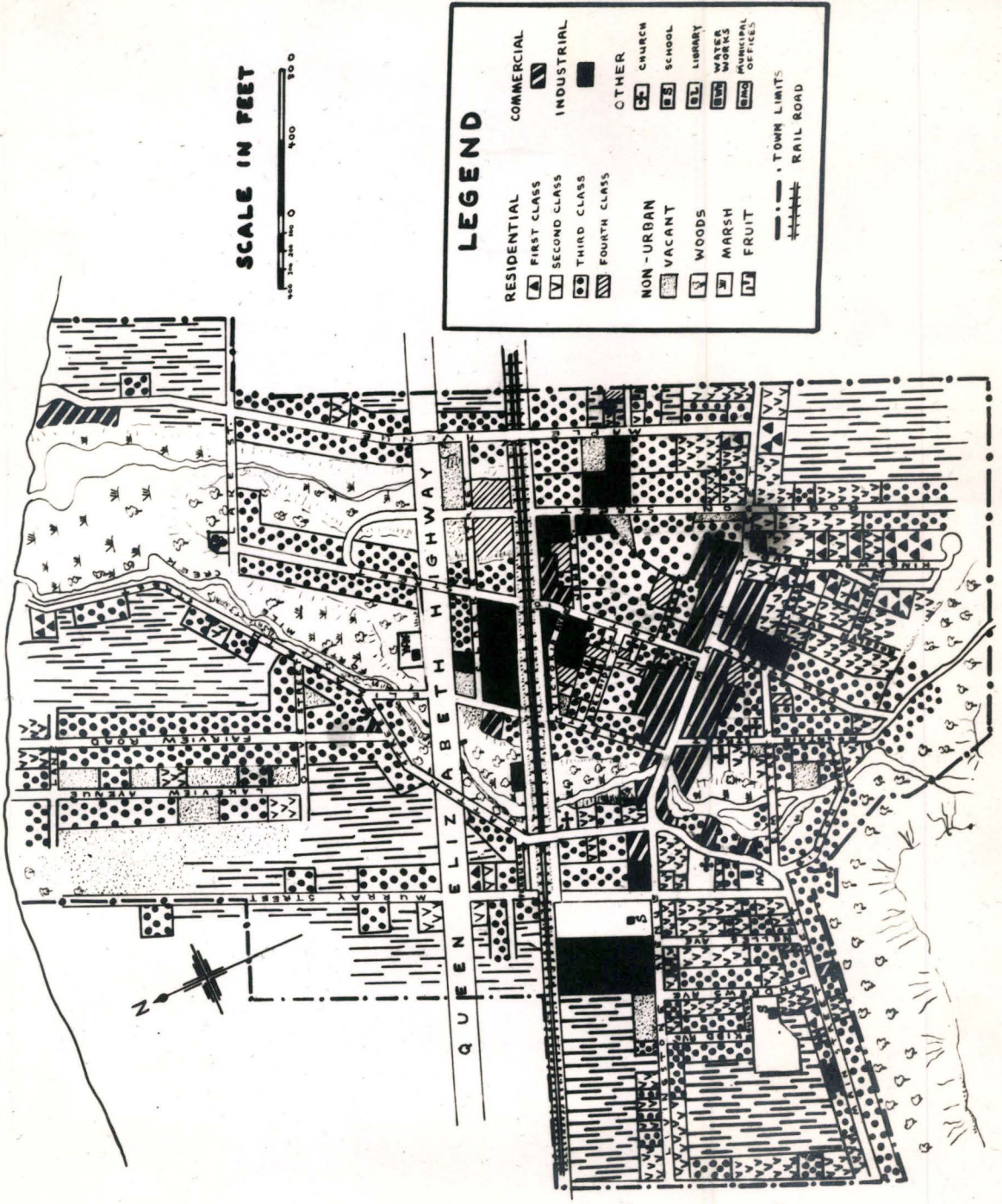
### Residential

First class housing (Plate VI)<sup>1</sup> is found chiefly in the new survey on Kingsway Boulevard, in the south eastern part of the town. These are new houses, generally one story high and of clap-board and brick

1 - See also, p. 73



# FUNCTIONAL MAP OF GRIMSBY



SCALE IN FEET

0 500 1000

### LEGEND

<b>RESIDENTIAL</b>	<b>COMMERCIAL</b>
▲ FIRST CLASS	▨
▽ SECOND CLASS	<b>INDUSTRIAL</b>
◻ THIRD CLASS	■
▨ FOURTH CLASS	<b>OTHER</b>
□ NON-URBAN	⊕ CHURCH
□ VACANT	⊖ SCHOOL
▨ WOODS	⊖ LIBRARY
▨ MARSH	⊖ WATER WORKS
▨ FRUIT	⊖ MUNICIPAL OFFICES
--- TOWN LIMITS	⊖ RAIL ROAD



FIG 23. Post Office, Main Street, Grimsby.

NOTE RE CLASSIFICATION OF HOUSING \*

1st CLASS	-	\$ 20,000	
2nd CLASS	-	\$ 10,000	- \$ 20,000
3rd CLASS	-	\$ 5,000	- \$ 10,000
4th CLASS	-	\$ 5,000	- or less

\* estimated value.





FIG 24 First Class Housing.



FIG 25 Second Class Housing. Nelles Avenue.



FIG 26 First class housing on the right, and second class housing on the left. Kingsway Boulevard.



FIG 27 Second class housing on the right, and third class housing on the left. Livingstone Avenue.





FIG 28 Third Class Housing. Livingstone Avenue.



FIG 29 Fourth Class housing. Doran Avenue.



FIG 30. North Grimsby Community Centre.



FIG 31 Grimsby High School.



construction. One or two older homes on No. 8 highway, east of the centre of the town, are first class and of brick construction.

There are two areas of second class housing, on Kingsway Boulevard and Rosslyn Avenue and on Nelles and Livingstone Avenues. These second class houses are in newer surveys and are mainly of brick construction one and a half or two stories in height.

Third class housing predominates the residential zonation. These are mostly large, old, wooden homes, generally in need of paint and having poorly kept surroundings. These houses are found mostly at the centre of the town and along No. 8 highway. A few of the newer homes have also been rated as third class since their value is less than \$ 10,000.

One or two streets close to the railroad have homes that are rated as fourth class. The value of these houses are estimated at less than \$ 5,000.

Approximately 80% of the homes of Grimsby are owner occupied.<sup>1</sup> As may be seen from the Functional Map of the town (Plate VI) there is a rough pattern in the disposition of the different classes of houses. The older, third class homes are concentrated at the commercial-retail core of the town. The second and first class homes are located on the outer boundaries of the third class zone.

## Services

### Cultural

Grimsby has one high school which serves the high school area of West Lincoln County. Two public schools are found in the town. A small library is located on Adelaide Street.

<sup>1</sup> Murdock, Bruce; Hamilton Spectator, May 19, 1951. p. 21



Seven churches serve the religious needs of the people of Grimsby; an Anglican, United, Presbyterian, Baptist, Roman Catholic, Ukranian Greek Orthodox, and a Hospel Hall.

#### Health and Recreation

The West Lincoln Memorial Hospital is located outside of the town limits to the east. It is a forty bed, one story structure and serves an area as far east as Jordan and Beamsville and south to Smithville. Four doctors, three dentists, two optometrists, a Victorian Order of Nurses, and a Lincoln health unit are also located in the town.

The following recreational facilities are available: an ice arena, a theatre, a bowling alley, a lawn bowling club, a curling club, tennis courts, and a baseball diamond. In addition there are several service clubs and organizations in the town. Recreation, therefore, is restricted to local community activities.

#### Public Utilities and Services

Streets. Practically all of the streets in Grimsby are paved or hard surfaced. There is no definite pattern other than the east-west direction of the main thoroughfares is determined by the escarpment and the lake.

Water works and sewage disposal. The water works system supplies water to areas in North Grimsby Township on both sides of the town. The pump house is located on Lake Ontario at the mouth of the Forty Mile Creek. Output has been as high as 1,000,000 gallons per day. Shortages occurred in the summer of 1952 because of drought conditions and increased consumption due to increased population.

Grimsby has an up to date sewage disposal plant. Its sewer system includes all but one or two streets.



Hydro Electric Power and Telephone. The municipality operates its own Hydro system under jurisdiction of the Hydro Electric Power Commission. The Bell Telephone Office is located on Main Street and serves the town, Grimsby Beach and Grimsby Centre.

Fire and Police. A volunteer fire department is maintained by town and township as far as capital expense is concerned. Each municipality pays the actual cost of fire fighting within its borders.

The town has its own police department with two offices and a police patrol car.

Milk and Bread. Grimsby has a local dairy which serves most of the town. It obtains its milk from the farms in the township and distributes the bottled milk as far east as Beamsville and as far west as Winona. Very little of the township to the south is served by the dairy. The daily output is approximately 280 gallons; no butter is produced at the dairy.

The bread supply for the town is brought by trucks from the bakeries in Hamilton.

Transportation. A regular hourly bus service is provided by the Canada Coach Lines from Hamilton to Niagara Falls through Grimsby. The Canadian National Railways provides a commuter service to and from Hamilton. This rail line is more important as a freight service than for passenger communication.

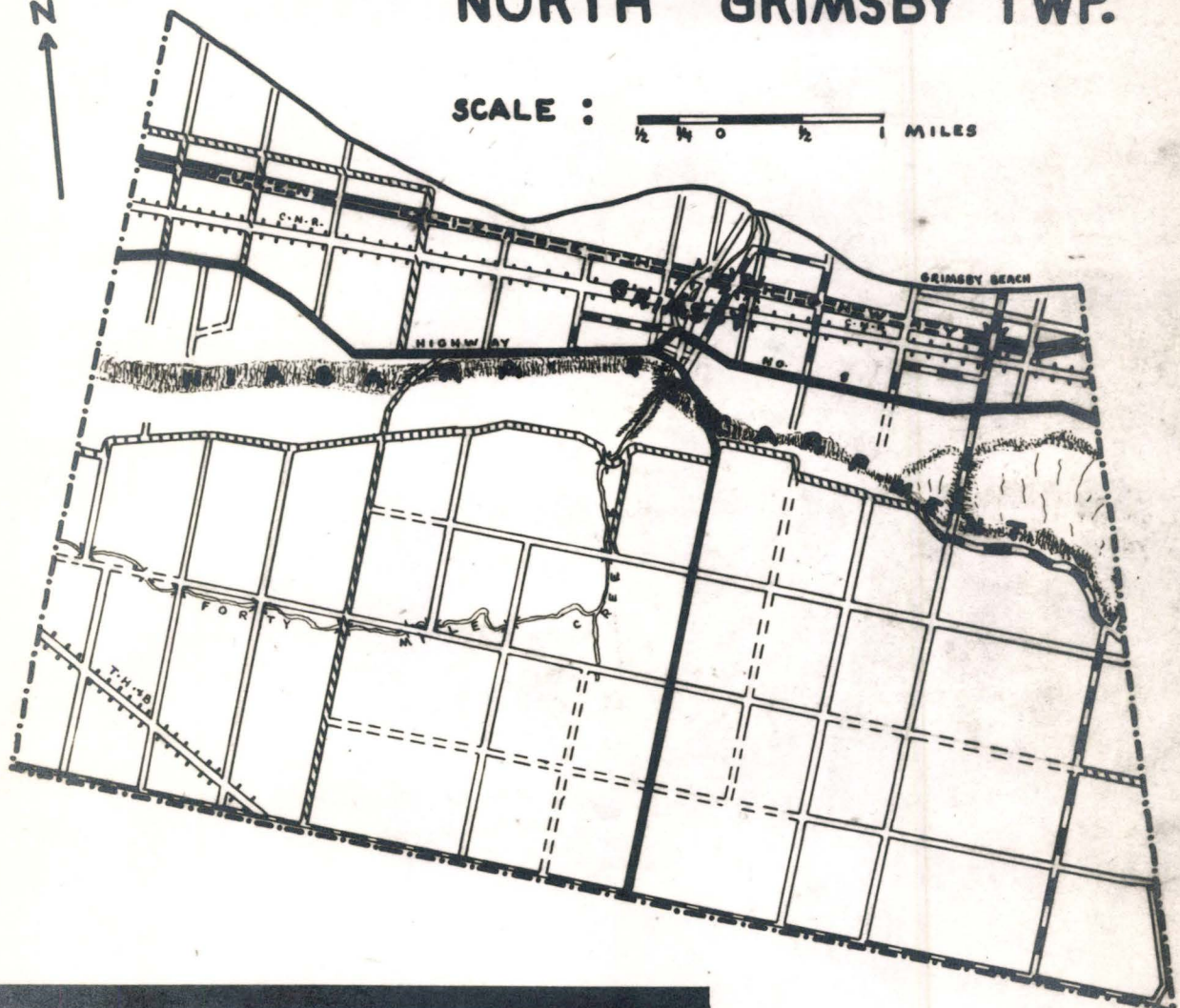
#### Summary.

The site has always been most influential in the development of Grimsby. Situated on the lake plain, the town has always been on the commercial routes between the United States and the head of the lake area in Ontario. Today these routes include two highways and a railway.

# TRANSPORTATION ROUTES OF NORTH GRIMSBY TWP.



SCALE : 1 MILES



## LEGEND

- |                   |  |               |  |
|-------------------|--|---------------|--|
| <b>PAVED</b>      |  | <b>GRAVEL</b> |  |
| WIDE              |  | WIDE          |  |
| NARROW            |  | NARROW        |  |
| DIRT, WAGON ROAD  |  |               |  |
| RAILWAY           |  |               |  |
| TOWNSHIP BOUNDARY |  |               |  |

D. MACLEOD 1953



Number 8 highway and the Canadian National Railway have been the two most important routes of the three. The traffic on the Queen Elizabeth is less concerned with the town and actually by-passes the town in most instances.

The railway should be important in the future development of Grimsby as far as light manufacturing is concerned. It has always been important to the fruit industry, providing a cheap fast method of transporting the perishable fruit.

Activity in the town until of late has been concerned mainly with fruit, either directly in the handling of the produce or in providing a shopping centre for the local fruit growers. As a result <sup>most</sup> of its residents work in Hamilton because there is not enough activity in the town to support them. In future years light industry should grow in importance and become the primary function of the town.

## CHAPTER SIX

### SUMMARY AND CONCLUSION

#### Summary

The study of land utilization in North Grimsby Township has shown an interesting contrast between the two types of agriculture. In the fruit growing areas, the question arises as to which factor has been most important in determining the general distribution of the orchards and vineyards. In the final analysis climate is the dominating influence. Soils, for example, are quite different on the Brow and Vinemount land types than on the Lake Plain and yet plums, pears, and grapes are grown successfully on these first two land types. As one goes south, away from the moderating influence of Lake Ontario, the danger of frosts becomes greater and so there are less orchards. Grapes are more resistant to frost damage than most tree fruits, therefore, are found in abundance in the southern sections of the township. Soils, however, are important in the distribution of a particular type of fruit. For example, peaches cannot be grown successfully on poorly drained heavy soils.

Dairy farming is not as particular in its soil or climatic demands. Poor drainage is the most significant danger. The middle sections of the dip slope have especially heavy soils. These heavy soils and the frequent heavy spring rains may destroy or severely damage young grain crops.

Economic problems have developed recently in the production and marketing of fruit, and these problems combined with the particular



physical demands of fruit has meant that fruit growing is especially risky as compared to dairy farming.

Conservation of soil is another problem which is more significant to the fruit grower than to the dairy farmer. Shore erosion has resulted in the complete removal of many feet of soil from along the lake front. The measures taken to combat this problem are extremely costly and at best only temporary. Sheet erosion, though common to both types of agriculture, is more prevalent in the fruit growing sections because of the lack of vegetation between the vines and trees. Cover crops have not been adopted as a preventive measure by all fruit growers.

The settlement pattern has shown the greatest change along No. 8 highway because of the recent development of rural housing. The contrast in concentration of settlement between the lake plain and dip slope has therefore increased in the last few years. The town of Grimsby has three functions. It serves as the centre for the fruit industry and as a shopping centre for the surrounding area. Its third function as a centre of light industry is of a more recent nature and show the greatest development in future years.

### Conclusion

Location has been the most important overall factor in the economic development of North Grimsby Township and the town of Grimsby. Fruit growing in the township has benefitted from the moderating influence of Lake Ontario and from the presence of soil types which are well suited to specialized fruit culture. The influence of Lake Ontario decreases as one goes farther south in the township and so the fruit culture gives way to dairy farming.

The importance of location has also been significant in Grimsby's development. Its situation on the important transportation routes which link the urban centres of the Niagara Frontier with Hamilton has been of paramount significance in the past and will continue to be important in the future.



## B I B L I O G R A P H Y

1. A. P. Coleman, Ontario Department of Mines Report, Vol. XLV, part 7, T. E. Bowman & Co., Toronto, 1937.
2. A. E. Coombs, History of the Niagara Peninsula and the New Welland Canal; Historical Publishers Association, Toronto, 1930.
3. Edwin C. Guillet, Early Life in Upper Canada; The Ontario Publishing Co. Ltd., Toronto, 1933.
4. G. Howison, Sketches of Upper Canada; Oliver & Boyd, Edinburgh, 1821
5. Fred Landon, Western Ontario and the American Frontier; Ryerson Press, Toronto, 1941.
6. Lincoln and Welland County Atlas; H. R. Page & Co., Toronto, 1876
7. Bruce Murdock, Hamilton Spectator, Grimsby, A Town Sketch; May 19, 1951.
8. A. Olding, Soil Survey of Lincoln County, Department of Soils, Ontario Agricultural College, Guelph. Unpublished.
9. Ontario Department of Agriculture Bulletins  
Bulletin 433, Establishing the Young Orchard, W. H. Upshall  
November, 1950.  
Bulletin 454, Oats and Barley in Ontario, Robt. Keegan, and  
D. N. Huntley, January 1948.  
Bulletin 457, Orchard Soil Management, E. F. Palmer, and  
J. R. VanHaarlem, January 1948.  
Bulletin 487, The Grape in Ontario, O. A. Bradt, June 1952.
10. D. F. Putnam, and L. J. Chapman, The Climate of Southern Ontario, Scientific Agriculture 18, pp 401-446, 1938.
11. W. H. Waddell, Growing Winter Wheat in Ontario, prepared for the Winter Wheat Institute at the Ontario Agricultural College, Guelph, July 1951.
12. H. A. H. Woods, Saltfleet Township, B.A. Thesis, McMaster University, 1947.

The following appendices were obtained from the Dominion Census Statistics. Though by no means complete, they do indicate certain trends important in the consideration of the history of agriculture. Unfortunately only the Preliminary Reports for 1951 were available.



ACREAGE DEVOTED TO CULTIVATED CROPS AND IDLE LAND

<u>Year</u>	<u>Under Cultivation</u>	<u>Under Crops</u>	<u>Pasture</u>	<u>Gardens Orchards Vineyards Small Fruits</u>	<u>Wood and Wild Land</u>	<u>Fallow</u>
1851	14737	9425	5161	151	15359	---
1861	18768	13362	5023	383	14917	---
1871	22126	16742	4403	931	-----	---
1881	22263	17489	2849	1925	-----	---
1891	7610	5518	1022	1070	2675	---
1901	---	---	---	---	-----	---
1911	12906	6325	2711	2912	1587	168
1921	12296	6043	2781	3388	1759	747
1931	11951	5215	2735	4050	1470	389
1941	12426	5412	2494	4410	1299	338

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AGRICULTURAL STATISTICS.

Year	Wheat				Barley		Oats		Rye		Buckwheat	
	Fall Bu.	Acres	Spring Bu.	Acres	Bu.	Acres	Bu.	Acres	Bu.	Acres	Bu.	Acres
1851			Bushels - 26,321 Acres - 3,775		4172	188	45195	1442	573	46	5471	315
1861	7956	889	32638	2803	24881	970	75772	2108	2076	211	9572	482
1871	33104	---	12643	---	19886	---	39492	---	142	---	1932	---
1881	70045	---	1265	---	13140	---	73254	---	687	---	1605	---
	Total Acreage - 4157											
1891	21396	---	17239	---	6534	354	27681	1264	70	---	1770	---
	Total Acreage - 1614											
1901	---	---	---	---	Statistics according to county only				---	---	---	---
1911	13737	608	248	15	4513	176	55804	1714	637	39	192	11
1921	11207	754	736	70	4171	134	49654	1319	715	46	394	24
1931	Total Acreage - 205				4195	181	47302	1412	137	10	---	---
1941	Total Acreage - 595				---	62	---	1162	---	29	---	---

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AGRICULTURAL STATISTICS

<u>Year</u>	<u>Root Crops</u>		<u>Hay</u>		<u>Clover or other grass seed.</u>	
	<u>Bu.</u>	<u>Acres</u>	<u>Tons</u>	<u>Acres</u>	<u>Bu.</u>	<u>Acres.</u>
1851	1127	----	2232	---	342	---
1861	6289	----	2991	---	630	---
1871	5982	----	6129	5302	1626	---
1881	13289	----	4072	4030	1218	---
1891	31413	76	4245	2701	305	---
1901	---	---	By County only		---	---
1911	547(tons)	40	3597	2732	---	---
1921	188 "	20	3030	2931	8268 (lbs)	
1931	---	10	2946	2266	---	---
1941	---	11	---	2778	---	---

AGRICULTURAL STATISTICS

<u>Year</u>	<u>Corn</u>		<u>Peas</u>		<u>Beans</u>		<u>Potatoes</u>	
	<u>Bu.</u>	<u>Acres</u>	<u>Bu.</u>	<u>Acres</u>	<u>Bu.</u>	<u>Acres</u>	<u>Bu.</u>	<u>Acres.</u>
1851	11899	493	2922	330	136	---	9427	109
1861	26378	655	23280	1304	183	---	22814	230
1871	14971	---	5384	---	125	---	15551	135
1881	35976	---	Peas and Beans - 2557 bu.				12356	171
1891	13688	----	29395	---	145	---	7327	92
1901	---	---	By County only			---	---	---
1911	Husking 10762	209						
	Forage 1566	220	291	26	313	10	8632	98
1921	Husking 8173	164						
	Forage 2362	294	60	6	77	3	9618	96
1931	---	----	---	--	---	---	6297	55
1941	---	----	---	--	---	---	---	47



SIZE OF FARM

<u>Year</u>	<u>Less than 10 acres</u>	<u>10-50 acres</u>	<u>50-100 acres</u>	<u>100-200 acres</u>	<u>more than 200</u>
1851	43	30	94	86	25
1861	47	69	133	68	33
1871	29	85	160	83	11
1881	140	92	157	78	6
1891	214	98	152	61	7
1901	---	--	---	--	--
1911	167	142	81	26	1
1921	132	159	82	21	1
1931	---	---	--	--	--
1941	158	147	67	22	5

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RELIGIONS OF THE PEOPLE

<u>Year</u>	<u>Anglican</u>	<u>Roman Catholic</u>	<u>Presbyterian</u>	<u>Baptist</u>	<u>Methodist</u>	<u>United</u>	<u>Lutherans</u>
1851	397	224	177	71	482	---	---
1861	955	198	329	117	927	---	7
1871	676	---	437	138	1119*	---	12
1881	661	173	541	276	922**	---	27
1891	576	79	391	269	564	---	13
1901	578	94	475	304	750	---	6
1911	1076	182	784	391	948	---	14
1921	1256	237	925	426	1156	---	30
1931	1165	335	584	424	----	1516	27
1941	1210	555	585	362	----	1492	33

\* 1871 includes Methodists 12, Wesleyans 759, Episcopal 326, New connection 22.

\*\* 1881 includes Church of Canada 684, Episcopal 196, other 42.



TABLE OF NATIONAL ORIGIN - THE TOWNSHIP

<u>Year</u>	<u>Eng. &amp; Welsh</u>	<u>Scot.</u>	<u>Irish</u>	<u>U.S.A.</u>	<u>Nat. Canada.</u>	<u>French</u>	<u>German</u>	<u>Dutch</u>	<u>Ukran.</u>	<u>Czech &amp; Slovak</u>	<u>Polish</u>
1851	108	52	196	265	1781	14	2*	--	---	--	--- (Birthplace)
1861	186	81	199	196	2294	5	27*	--	---	--	--- (Birthplace)
1871	1162	416	472	---	---	52	1015	--	---	--	---
1881	1739	367	391	---	---	27	800	15	---	--	---
1891	----	---	---	---	---	Not given		--	---	--	---
1901	465	197	163	---	---	57	411	7	---	--	---
1911	991	253	194	---	---	25	223	66	---	--	---
1921	1027	435	288	---	---	38	83	142	2	1	1
1931	962	319	248	---	---	23	144	86	80	5	22
1941	866	313	271	---	---	59	77	160	176	39	32

\* includes German and Dutch

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TABLE OF NATIONAL ORIGIN - THE TOWN

<u>Year</u>	<u>Eng &amp; Welsh</u>	<u>Scot.</u>	<u>Irish</u>	<u>French</u>	<u>German &amp; Austrian</u>	<u>Dutch</u>	<u>Ukran.</u>	<u>Polish</u>
1881	286	---	160	20	59	81	--	---
1891	---	---	---	---	Not given	---	--	---
1901	391	125	206	26	215	---	--	---
1911	---	---	---	---	Not given	---	--	---
1921	1101	293	255	25	50	119	--	68
1931	1110	399	249	27	208	46	51	39
1941	1268	383	253	56	111	81	12	60

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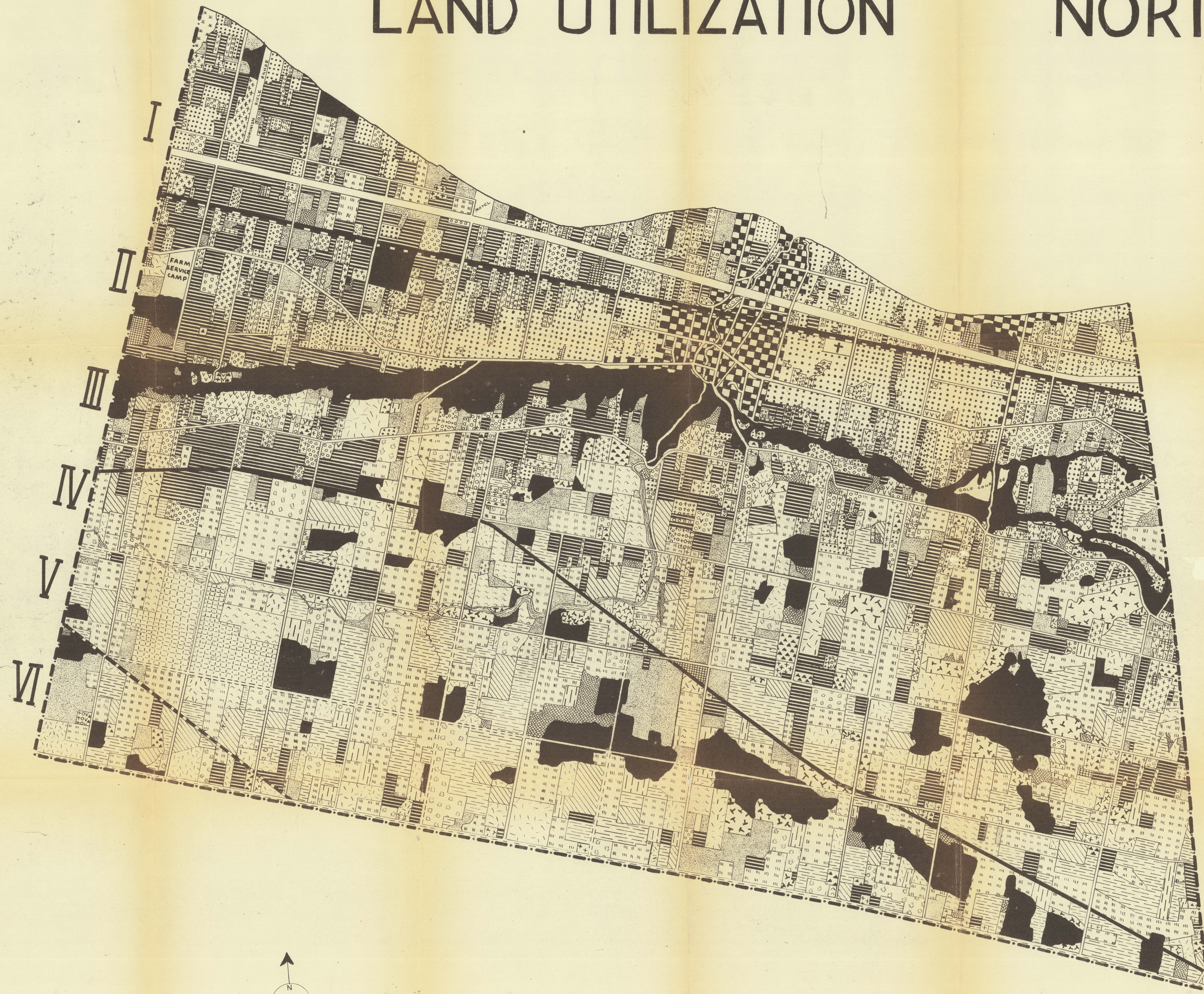
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 WASHINGTON, D.C.



LAND UTILIZATION

NORTH GRIMSBY TOWNSHIP

No. 2



LEGEND

AGRICULTURAL USE

FRUIT CULTURE

- GRAPES
- PEACHES
- PEARS
- PLUMS
- CHERRIES
- APPLES
- SMALL FRUITS

OTHER

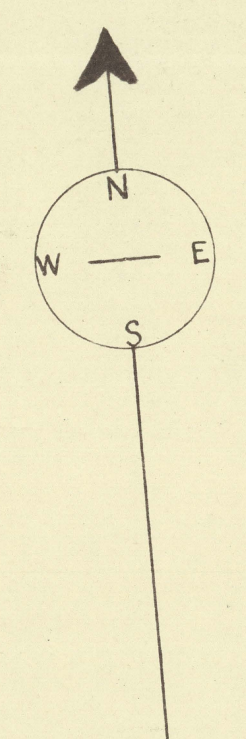
- WOODLOT
- SCRUB
- MARSH

CROPLAND

- VEGETABLES
- WHEAT
- OATS AND/OR BARLEY
- CORN
- RYE
- ALFALFA, CLOVER
- HAY
- PASTURE
- PERMANENT PASTURE
- FALLOW
- IDLE

NON-AGRICULTURAL USE

- URBAN
- ROAD
- WAGON ROAD
- HYDRO ELECTRIC LINE
- RAILWAY
- CEMETERY
- BRIDGE
- STREAM
- TWP. BOUNDARY



SCALE 1:15,840

