

COMPREHENSIVE DEVELOPMENT PLAN

FIRTH, NEBRASKA

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June, 1969

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The Firth Planning Commission

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TABLE OF CONTENTS

	<u>Page</u>		<u>Page</u>
INTRODUCTION	1	LAND USE PLAN	49
HISTORICAL AND GEOGRAPHIC BACKGROUND	3	Land Use Projection	50
History & Regional Setting	4	Land Use Plan	53
Physiography	6	TRANSPORTATION PLAN	56
Water Supply	6	Regional Transportation	57
Geology	7	Existing Street System	57
Climate	10	Problems of the Street System	59
EXISTING LAND USE	11	Transportation Plan	61
Existing Land Use Within the Village	12	Street Standards	61
Existing Land Use in Planning Area Outside Corporate Limits	16	Recommendations	64
Land Use Problems	16	COMMUNITY FACILITIES PLAN	66
Environmental Evaluation	21	PARKS AND RECREATION	67
ECONOMIC BASE STUDY	23	Existing Parks & Recreation Facilities	67
Employment	24	Evaluation of Existing Parks & Recreation Facilities	69
Income	24	Recommendations	70
Trade Area	26	SCHOOL FACILITIES	72
Retail Sale, Wholesale & Selected Service	26	PUBLIC BUILDINGS	74
Agriculture	31	Existing Public Buildings	74
Modern Industrial District	31	Recommendations	76
POPULATION STUDY	33	PUBLIC UTILITIES	79
Population Trend	34	Water System	79
Population Characteristics	39	Recommendation	81
Population Density	43	Sanitary Sewer System	81
Population Distribution	43	Solid Waste Disposal	83
Population Projection	43	Storm Drainage System	83
School Age Population Projection	46	Electrical Power	83
		Other Utilities	83

	<u>Page</u>
CENTRAL BUSINESS DISTRICT PLAN	85
Existing Land Use	86
Condition of Structures	86
Central Business District Improvement Plan	88
Long Range CBD Improvement Plan	90
GENERAL DEVELOPMENT PLAN	93

LIST OF TABLES

<u>Table No.</u>	<u>Title</u>	<u>Page</u>	<u>Table No.</u>	<u>Title</u>	<u>Page</u>
1	Existing Land Use Within the Corporate Limits, Firth, Nebraska. June, 1968	14	10	Population Trend Comparisons Between Villages In Lancaster County, 1900-1960	37
2	Existing Land Use In Planning Area, Firth, Nebraska. June, 1968.	17	11	Population Trend Comparisons Between Lancaster County and Adjacent Counties, 1900-1960	38
3	Commercial & Industrial Establishments	24	12	Population Trend Comparisons Between Villages of Similar Size in Adjacent Counties, 1900-1960	40
4	Family Income, Firth, Gage County, Lancaster County, Nebraska	25	13	Population Characteristics, Firth, Nebraska, 1960	44
5	Retail Sales & Effective Buying Income	28	14	Population Projection, Firth, Nebraska	47
6	Retail, Wholesale & Selected Services	29	15	Developed Land Use Ratios Acres per 100 Population	51
7	Farms, Farm Value & Farm Acreage, Lancaster County, 1964 and 1959.	30	16	1990 Land Use Projection	52
8	Population Trend, Firth, Nebraska, 1880-1968	35	17	Mileage of Different Types of Streets	59
9	Population Trend for South Pass Precinct, Firth, Lancaster County, Nebraska and the U.S.	36	18	Street Standards	62
			19	Post Office Receipts, Firth, Nebraska, 1963-1967	76
			20	Water Analysis	79
			21	Electricity Consumption	83

LIST OF ILLUSTRATIONS

<u>No.</u>	<u>Description</u>	<u>Page</u>	<u>No.</u>	<u>Description</u>	<u>Page</u>
1	Vicinity Map	5	15	Public Facilities	68
2	Soil Map	9	16	Park & Recreation Plan	71
3	Existing Land Use	13	17	School District	73
4	Existing Land Use - Outside Corporate Limits	18	18	Fire District	75
5	Housing Condition	20	19	Water Distribution System	80
6	Environmental Condition	22	20	Sanitary Sewer System	82
7	Trade Area	27	21	Storm Drainage System	84
8	Population Composition, 1960	41	22	Existing Land Use, Central Business District	87
9	Population Composition, 1960 and 1968	42	23	Condition of Structures, Central Business District	89
10	Population Distribution	45	24	Improvement Plan, Central Business District	91
11	Land Use Plan	54	25	Firth Downtown Improvement	92
12	Street Conditions	58	26	General Development Plan	95
13	Transportation Plan	60			
14	Street Paving Schedule	65			

INTRODUCTION

A Comprehensive Planning Program consists of three phases, namely, Research and Survey; Improvement Plans; and Implementation Plans. In this planning program, the three phases are as follows:

Phase I. Research and Survey

Historical & Geographic Background
Existing Land Use
Economic Base
Population

Phase II. Improvement Plans

Land Use Plan
Transportation Plan
Community Facilities Plan
Central Business District Plan

Phase III. Implementation Plans

Zoning Ordinance
Subdivision Regulations
Capital Improvements Program

A Comprehensive Development Plan is the general guideline for community development established by the Planning Commission through the help of a Planning Consultant. It will not be effective unless it is adopted and implemented by both the Planning Commission and the Village Board of Trustees of Firth. It is also important that the Comprehensive Plan be reviewed from time

to time, and the Capital Improvement Plan be updated annually in order to keep the planning program current.

With the completion of this plan, the Village of Firth is now qualified for many Federal Assistance Programs such as Open Space Land Program, Urban Beautification Program, Low Rent Public Housing Program, Public Housing Program for Senior Citizens, Land and Water Conservation Fund Program and many others. It should also be noted that Firth is also eligible for many programs administered by the Farmers Home Administration of the U.S. Department of Agriculture, since these programs are designed for communities under 5500 in population. All these programs should be carefully considered in the process of implementation.

During the course of this study, it was found that the potentials of the Village are: (1) increase in number of commuters to Lincoln and Beatrice, (2) increase in number of retired farmers reside in the Village, (3) increase in services to the surrounding rural area, (4) possible development of small agriculturally oriented industries, and (5) the development of Firth Lake Recreation Area. The problems in the Village are: (1) the lack of employment opportunity, (2) too many unpaved streets, (3) inadequate parks and recreation areas, and (4) deterioration of the Central Business District.

Since Firth has only a limited tax base, it will be rather difficult to carry on the proposed improvements without substantial State and Federal aid. The Capital Improvements Program has outlined the methods of finance and the improvements schedule. Federal and State programs are introduced to help many of these projects. It is, therefore, necessary for the Village to see that the prerequisites of these Federal Assistance Programs, such as the Workable Program requirements, are fulfilled. Guidelines for Workable Program can be found in the Appendix of the Capital Improvements Program.

The Zoning Ordinance and Subdivision Regulations are useful tools for the control of land use and land development, and they should be properly enforced.

**HISTORICAL AND
GEOGRAPHIC BACKGROUND**

HISTORY AND REGIONAL SETTING

Firth is located at southeast quadrant of the State of Nebraska. It is situated at the extreme southern part of Lancaster County, only half a mile north of Gage County line, near the headwaters of the Nemaha River and in the famous "Nemaha Valley", which Horace Greeley characterized as the "Garden of America".

In 1856 a number of pioneers crossed the Missouri River and penetrated as far as the banks of Salt Creek in Clay County now Lancaster. The first permanent settlement was made in 1857 at Olathe, about fifteen miles south of present City of Lincoln. John D. Prey and his family were the first settlers. In the same year, the settlement extended from Hickman to Saltillo along the Salt Creek.

The first religious service held in the County was conducted by Rev. Turman, a missionary of the Methodist Church in the summer of 1858.

From 1859 to 1862, there was little progress made in the settlement of the County. Even though there were a number of new arrivals, the departures were enough to offset them. The passage of the homestead law in 1862 gave an impetus to immigration from the east. Since then, the increase in population and progress in the development of the resources of the Lancaster County have been constant and steady.

The early settlers were mainly from Iowa, Illinois, Missouri, Pennsylvania and other states to the east. Most of them, chiefly of German, Dutch, Irish and Swedish descent, were American-born.

The name of Firth was given in honor of Superintendent Firth of the Atchison and Nebraska Railroad. It was organized as a village in February, 1879. The first Village Board of Trustees Chairman was G.G. Beams; the Village Clerk was W.H. More; and the Treasurer was C.F. Fleckinger.

The village is 17 miles southeast of Lincoln, and 19 miles northeast of Beatrice. State spur 341 joins State Highway 41 which goes east and west south of Firth; and route 395 connects U.S. Highway 77 in north and south direction. Chicago, Burlington and Quincy Railroad which circles the western part of the village, provides passenger and freight services to many parts of the country.

Illustration 1 - Vicinity Map shows the exact location of Firth with respect to the highway network and some larger towns in eastern Nebraska.

PHYSIOGRAPHY

Lancaster County is a part of a dissected glacial-drift plain that was covered to various depths by two silty wind-laid loess formations. In many places dissection has removed both of these deposits, exposing the glacial drift and locally the bedrock formations known as Dakota sandstone and Permian limestone and shale.

In its general physiographic aspect, the County is a broad elongated basin, its axis followed throughout by Salt Creek, tributaries of which have produced minor irregularities in the outline of the basin. The uplands are moderately to strongly rolling. The greatest relief is in West Oak, Little Salt, Elk and Denton Precincts, whereas the smoothest uplands are on a high northeast-southwest divide across the southern tiers of precincts. The nearly level or gently undulating alluvial lands, principally along Salt Creek and its larger tributaries, occupy a relatively small part of the county.

Drainage is chiefly northward and eastward to the Platte River through Salt Creek and its tributaries of the Big Blue and Nemaha Rivers. As a whole, the County is well drained.

The predominant tree species found are ash, elm, oak, walnut, hackberry, maple and cottonwood. The woodland is located mainly along the watercourses. In some areas,

woodland cover extends out into wider but often it is rather narrow. The stands are usually fully stocked, but tree quality and stand composition are poor.

Many species of wildlife occur in the County. Moderate numbers of pheasants, white-tailed deer, squirrels and cottontail rabbits are found and furnish a great deal of sport for some small game hunters. The diversity of vegetation types, from dense woodland to rowcropped fields, maintains the large variety of non-game, or songbirds. The esthetic value of non-game birds and mammals is a facet of the wildlife resources of an area which will assume increasing importance in the future.

WATER SUPPLY

To have ample water supply is one of the most important factors in the development and expansion of a community. Throughout history, many cities were formed at the banks of rivers or at places where there was ample water supply. Firth is lucky to have plenty of ground water supply. Good but medium-hard well water in sufficient quantity for family and livestock needs is readily obtained over areas in and around the Village of Firth. Throughout most of the uplands, the water comes mainly from lenses and buried channels of sand and gravel in the glacial-drift deposits and from sandstone bedrock at depths of 40 to 100 feet. In some areas, potable water is obtained from limestone and sandy shale formations, but this supply is rather limited and uncertain.

The depth to water in any locality on the uplands depends partly on the character of the relief and the thickness of the loessial cap, but chiefly on the thickness and textural composition of the drift deposits and on the depths to suitable aquifers in the bedrock. Water occurring at depths of more than 250 feet below the levels of the uplands usually is too salty to drink.

Throughout most of the alluvial lands, an abundance of good water commonly obtained from sandy stream-laid sediments at depths of 20 to 30 feet. A limited supply of drinking water is obtained from springs at or near the contact of the drift and bedrock formations. Only a few farmers along the sides of the larger valleys, where wells are rather uncertain, depend on this source. Streams provide a limited supply of water for livestock needs only. Most of the streams are intermittent, many are dry most of the year, and much of the water from the remaining ones is not potable.

Natural freshwater lakes do not exist in Firth area. Some artificial lakes or ponds in the nearby areas can furnish water for livestock and domestic uses and local recreation. The proposed lake on the east part of Firth will ensure the Village with even more water supply and recreational uses.

Since Firth obtains all of its water from the wells, more thoughts should be given to the location and care of wells. Water moving over and through polluted ground may affect the quality of the well water. Farm wells,

too, should be even more careful, because it is not uncommon to see shallow, poorly cased open wells immediately below feed yards and other sources of contamination, where they receive sediment and surface debris from surrounding land.

GEOLOGY

Lancaster County is in the Prairie soil region of the United States. All the soils have developed under the influence of a vegetation of tall grass except those occupying part of the bottom lands and part of the most steeply sloping areas. Most of the soils are very dark and highly granular in the surface layers, friable throughout, and easily penetrated by air, roots, and water. Only a few contain significant quantities of lime, but so far as crops are concerned, none seems to be deficient in calcium.

On the basis of use capability and productivity as influenced chiefly by depth and friability of soil material and character of parent material, the soils in the Firth Planning Area are grouped as follows:

1. Deep Heavy Soils of the Loessial Uplands - These are represented by the Crete series which have a very dark grayish-brown or nearly black friable fine granular surface soil 10 to 14 inches thick, and have a dense claypan layer in the upper part of the subsoil and horizon of lime enrichment in the lower part. Owing to the imperviousness of the claypan in the

subsoil, they are better suited to growing small grains than corn during most years.

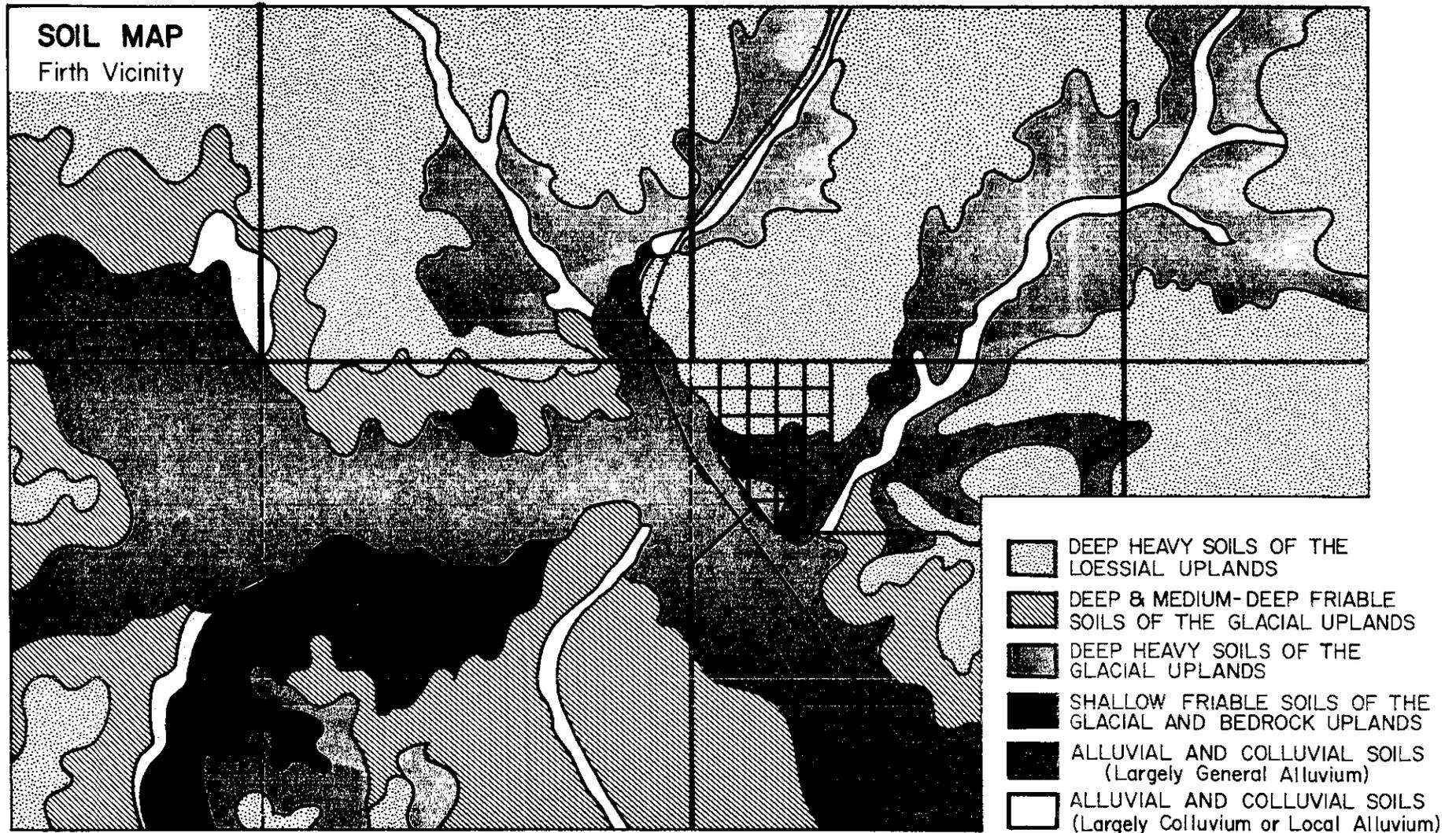
2. Deep Heavy Soils of the Glacial Uplands - This comprises a single type of the Pawnee series. It differs from the Crete series mainly in having a little sand and some gravel in the profile and in having a substratum of drift instead of loess. The upper part of the subsoil is claypanlike, and the lower part has a horizon of lime enrichment. The soil is used principally for corn, but is better suited to small grains, mainly wheat, which can usually mature before the moisture stored near the surface during spring and winter is exhausted.
3. Alluvial and Colluvial Soils - The alluvial and colluvial soils in the Firth Planning Area comprise the Wabash and Judson series. They occur in bodies and strips of various widths on the bottom lands along the stream valleys. These soils are highly productive and are mostly under cultivation. Corn and alfalfa are the principal crops on the bottom lands, which receive considerable runoff from higher land and are a little too wet for the highest yields of small grains.
4. Deep and Medium-Deep Friable Soils of the Glacial Uplands - These soils include the Carrington and Burchard

series. The Carrington soils have a dark surface soil, fairly friable subsoil, and ample fertility. Associated with the Carrington are some areas of the Burchard, in which the drift-derived soils, although otherwise similar to those of the Carrington, have an abundance of lime in the lower part of the subsoil, commonly at a depth of about 30 inches.

5. Shallow Friable Soils of the Glacial and Bedrock Uplands - The soils are represented by the Steinauer series in this area. The Steinauer soils are developed on glacial drift consisting of silt, clay, sand and gravel. They are unimportant in extent, and most of them are either too steeply sloping, too stony, or too severely eroded to be of value for cultivation and are used as pasture.

The Soil Map shows the location and extent of the above mentioned five different types of soils in the Firth Planning Area. The Map indicates that the Deep Heavy Soils of the Loessial Uplands, and Alluvial and Colluvial Soils are most abundant. With the exception of Shallow Friable Soils of the Glacial and Bedrock Uplands, which are not extensive, all the other types of soils in the Firth Planning Area are very fertile and suitable for agricultural uses.

Illustration 2



CLIMATE

The climate of Firth, like many other places in central United States, is continental in nature. Variation in temperature and precipitation between winter and summer are rather wide. It is in a favorable location in respect to the moisture-laden winds from the Gulf of Mexico. The moisture content of the air contributes to a smaller daily range in temperature than if it were drier. The southern location of Firth permits some of the weaker cold fronts to lose a portion of their effectiveness before reaching the area.

The climate is well suited to the production of grain, vegetables, hay crops, and livestock. Cool springs and considerable rain and snow favor rapid growth of winter wheat and spring-planted small grains. In the long summer days and nights, the weather and rainfall are very favorable for the growth of corn. The long and pleasant fall has only occasional periods of rainy weather, giving the farmers ample time to harvest the corn and seed the land for winter wheat. Low winter temperatures are usually of short duration and usually are accompanied by the snow which protects the winter-grown crops from serious injury.

For a period of 30 years, from 1932 to 1961, the mean daily maximum temperature in the Firth region was 63.6 degrees F.;

the mean daily minimum was 41.0 degrees F.; and the mean monthly temperature was 52.3 degrees F. The record highest temperature was 117 degrees F.; and the record lowest was -20 degrees F. The mean precipitation, for the 30 year period, was 28.94 inches; and the mean snow and sleet precipitation was 28.2 inches.

The average date of the last killing frost is April 18, and that of the first is October 15, which indicates an average frost-free season of 180 days. Normally, about three-fourths of the annual precipitation falls from April to October, the seven months comprising the growing season. In summer, the rainfall usually occurs as heavy thunder-showers, but torrential rains are rare. Droughts are almost unknown in May and June, but dry periods sometimes occur in the latter part of July and during August.

From about February 1 to May 1, the prevailing wind is from the north and during the rest of the year from the south. Strong winds are common, but tornadoes are rare. The average annual wind velocity is 10.5 miles per hour. The relative humidity is fairly regular. The average for the year being 64 per cent.

EXISTING LAND USE

EXISTING LAND USE

A detail inventory and examination of the existing land use in a community is important in the development of a Comprehensive Plan. A study of existing land use can: (1) identify the present pattern of development, (2) find out the facilities available in the community and thereby determine the adequacy at the present and for the future, (3) determine the locational requirement for improvement and extension of utilities and facilities, (4) help to find out the probable growth trends and the recommended zoning districts.

Existing Land Use Within the Village

A detail lot by lot land use survey was conducted in April, 1968. The area of the survey included the Village proper as well as the planning area one mile outside the corporate limits. The use of every building and open land was recorded. This data has been compiled on a one inch to 200 feet scale color map as shown in Illustration 3. Standard land use color coding was used to designate each type of land use. The use of land and all properties was classified into one of the following categories: single family, commercial, public and semipublic, parks and recreation, industrial, railroad, streets and alleys and vacant or agriculture.

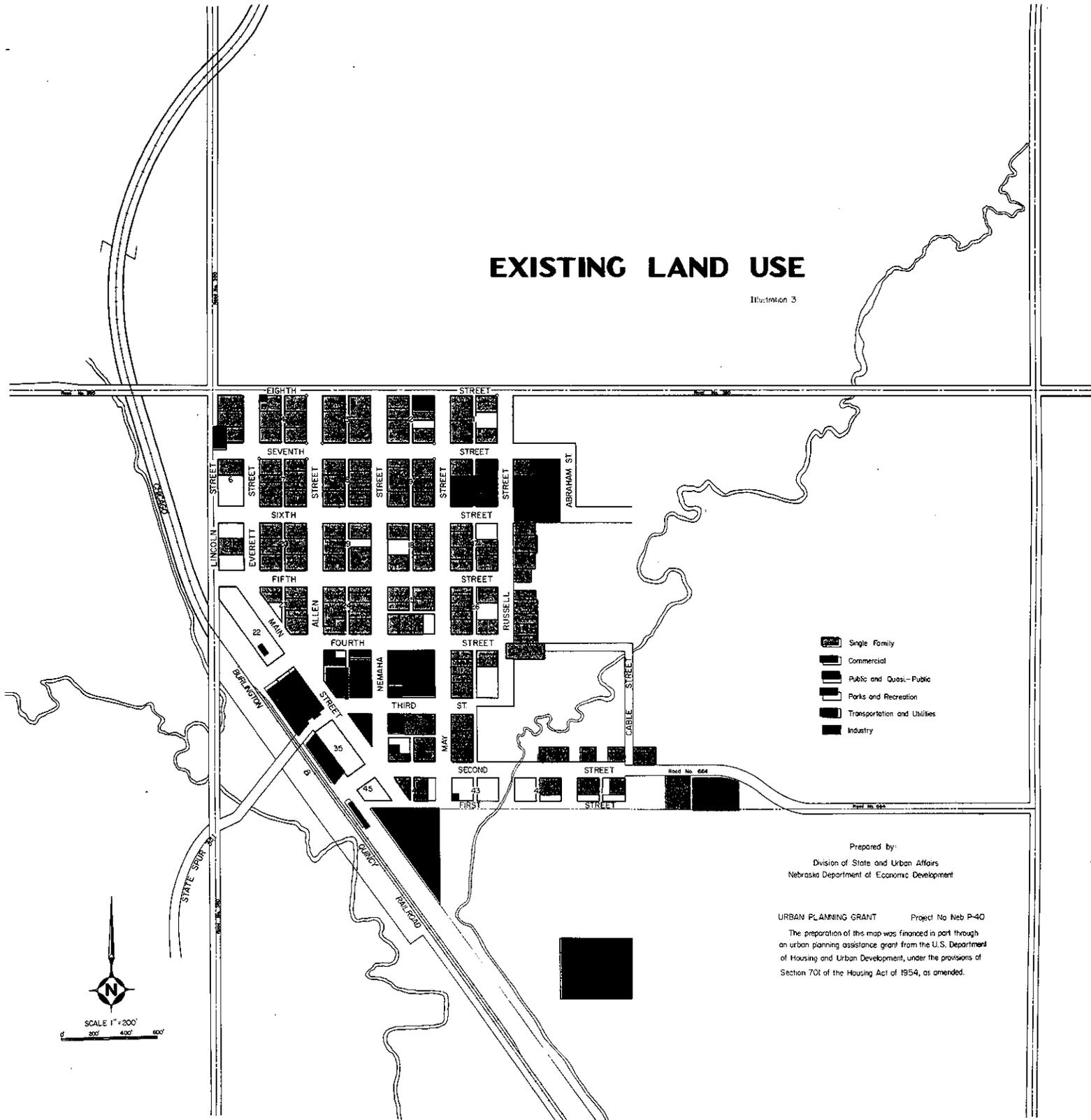
Table 1 shows the different categories in land use by areas, per cent, acres in 100 population within the corporate limits, and acres per 100 population for 11 cities under 1000 in Nebraska. The dominant land uses are single family and streets which occupy almost 75 per cent of the total developed land. The Village contains a total of 182.2 acres or a little more than one-quarter of a square mile. The developed area is only 61.1 per cent of the total land area within the corporate limits.

Residential Use:

Firth has about 34.4 acres, or 30.8 per cent of its developed land devoted to residential use. All of the residential land is single family, and there are a limited number of mobile homes in the community. Most of the development is north and northeast of the Central Business District. The conditions of most of the houses are good, and densities are relatively low, and there is little overcrowding of land. Firth has lower residential density than other Nebraska communities with comparable sizes.

EXISTING LAND USE

Illustration 3



-  Single Family
-  Commercial
-  Public and Quasi-Public
-  Parks and Recreation
-  Transportation and Utilities
-  Industry

Prepared by:
 Division of State and Urban Affairs
 Nebraska Department of Economic Development

URBAN PLANNING GRANT Project No. Neb P-40
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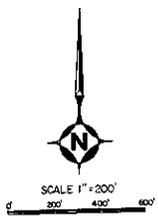


Table 1
 EXISTING LAND USE WITHIN THE CORPORATE LIMITS
 Firth, Nebraska
 June, 1968

<u>Land Use Category</u>	<u>Acres</u>	<u>Per Cent</u>	<u>Acres Per 100 Population</u>	<u>Acres Per 100 Population for 11 Cities Under 1000 in Nebraska*</u>
<u>DEVELOPED LAND</u>				
Single Family	34.4	30.8	10.4	8.6
Commercial	2.8	2.6	0.8	1.0
Public & Semi-Public	3.5	3.2	1.1	2.8
Parks & Recreation	4.5	4.0	1.4	1.0
Industrial	3.1	2.9	0.9	1.0
Railroad	14.0	12.5	4.2	2.1
Streets & Alleys	<u>49.0</u>	<u>44.0</u>	<u>14.9</u>	<u>9.6</u>
Total developed	111.3	100.0	33.7	26.1
<u>UNDERDEVELOPED LAND</u>				
Vacant or Agriculture	70.8			
Total Acres in City	182.2			

Source: Survey by Nebraska Department of Economic Development

*Average figures computed by Nebraska Department of Economic Development

Commercial:

Commercial covers approximately 2.8 acres or 2.6 per cent of all developed land in the Village. Outside the Central Business District in the residential area, there are 6 home-based businesses and one excavation company on the northwest edge of the community. There is one residential house, two vacant buildings, and two vacant lots in the Central Business District.

Public and Semi-Public:

The public and semi-public land uses are represented by churches, school, fire hall, post office, legion hall, and other public buildings. There are 3.5 acres or 3.2 per cent devoted to these uses. The figure of 1.1 acres per 100 population in Firth shows that the public and semi-public land uses are less than half of what are provided in the comparable communities in Nebraska. The fact that both the cemetery and the sewage pond are located outside the corporate limits tends to distort the true picture of what is available in Firth. Adding the 12.1 acres of cemetery and sewage pond that are outside the corporate limits, it indicated that Firth is well above the average of other Nebraska communities.

Parks and Recreation:

Land belonging to parks and recreation accounts for 4.5 acres or 4.0 per cent of

the total developed land within the corporate limits. The 1.4 acres per 100 population of park and recreation in Firth is above the range of that found in communities of similar size in Nebraska.

Industrial:

The survey revealed that 3.1 acres are used for industrial purposes. Almost all of the industrial development in Firth is along the Chicago, Burlington and Quincy Railroad. The 0.9 acres per 100 population is about equal to other Nebraska communities in this category.

Railroad:

Railroad rights-of-way totaled 14 acres, or 12.5 per cent of the developed land within the corporate limits. It is located along the west and southwest corporate limits, and is intersected by State Spur 341. In comparison, Firth has twice as many acres per 100 population for the land in railroad uses.

Streets and Alleys:

Public streets and alleys rights-of-way cover 49.1 acres or 44 per cent of all the developed land in the Village. This is the largest land use category in Firth. The same holds true in the selected 11 communities under 1000 in Nebraska. This reflects the typical wasteful policy of early subdividers to use rectangular or square blocks in most of the cities in this country.

Vacant or Agriculture:

A total of 70.8 acres of the Village area lies vacant at the present time. The vacant land includes the vacant lots, agricultural land, and the platted street rights-of-way but are undeveloped. These vacant lands are mostly suitable for future expansion and development.

Existing Land Use in Planning Area Outside Corporate Limits

The land uses within one mile area of the corporate limits have been tabulated in Table 2. The major land use is agricultural and vacant land which constitutes to almost 95 per cent, or 3505.8 acres. Other land uses include 43 acres of railroad rights-of-way; 12.1 acres of public cemetery and sewage pond; 20.0 acres of highways; 9.3 acres of farm houses; and 4.0 acres of grain storage. Illustration 4 represents the existing land uses in the planning area outside the corporate limits.

The land within the total Firth planning area is 3776.4 acres, or approximately 6 square miles.

Land Use Problems

The land use problems of Firth can be summarized as follows:

General Land Use:

The future trend of growth in Firth will be limited to the north since the Village is bounded by the railroad and the Nemaha River and its tributaries on the west and south. The growth to the east is also restricted due to the construction of a reservoir sometime in 1970.

The land north of the present corporate limits is farm land, and the gentle slopes and topography make it ideal for the site of future growth and development.

Flooding from the Nemaha River will no longer be a problem after the construction of the dam. However, all the storm drainage channels should be properly cleaned and maintained for better water flow.

As indicated in the results of the Community Attitude Survey conducted in May, 1968, some "eyesores" of the community, such as junkyards, junk piles behind businesses and backyards are noticeable. Some community efforts should be made to improve this situation.

Table 2
 EXISTING LAND USE IN PLANNING AREA*
 Firth, Nebraska
 June, 1968

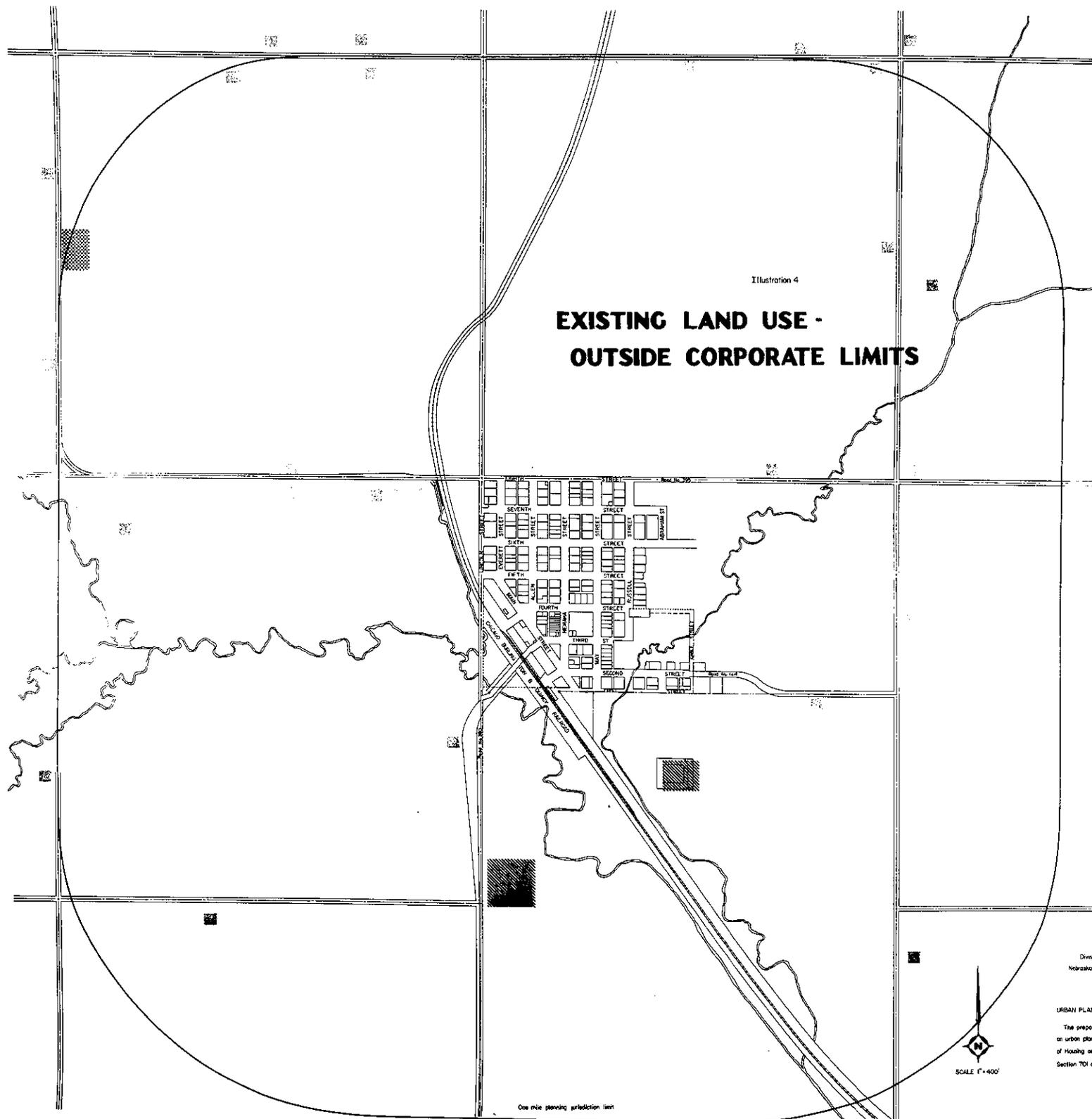
<u>Land Use Category</u>	<u>Number of Acres Inside Corporate Limits</u>	<u>Number of Acres Outside Corporate Limits in Planning Area</u>	<u>Total Number of Acres</u>	<u>Per Cent</u>
Single Family	34.4	9.3	43.7	1.2
Commercial	2.8	0.0	2.8	.1
Public & Semi-public	3.5	12.1	15.6	.4
Parks & Recreation	4.5	0.0	4.5	.1
Industrial	3.1	4.0	7.1	.2
Railroad	14.0	43.0	57.0	1.5
Highway, Streets & Alleys	49.1	20.0	69.1	1.8
Vacant or Agricultural	70.8 ^{39.}	3505.8	3576.6	94.7
Total	182.2	3594.2	3776.4	100.0

Source: Survey by Nebraska Department of Economic Development

*Planning Area includes all the land within the corporate limits and one mile beyond corporate limits.

Illustration 4

EXISTING LAND USE - OUTSIDE CORPORATE LIMITS



- Farmstead
- Public & Quasi-Public
- Light Industry-Storage

Prepared by:
Division of State and Urban Affairs
Nebraska Department of Economic Development

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One mile planning jurisdiction limit

Residential:

Although most of the residential houses in Firth are kept in very good condition, there are some houses which show some signs of deterioration. This can be corrected rather easily by proper maintenance and clean up. It should be pointed out that the deterioration of houses will tend to lower the sales value and thus lower the tax revenues accordingly.

Commercial:

As pointed out in previous discussion, the Central Business District in Firth is generally deteriorating. There are vacant buildings, vacant lots, and mixed land uses. The building condition is rather poor, and the general appearance of the CBD area is not too attractive. A complete rejuvenation of the Central Business District seems to be a necessity.

Public and Semi-Public:

The results of the Firth Community Attitude Survey also indicate a need for a Community Center and a public library. More detail discussion can be found in the Community Facilities Plan.

Parks and Recreation:

Firth has not devoted enough land for park and recreation, and there is need for improvements on the Community Park and the

Ball Park. When the reservoir is completed, a detail site planning and improvement program are necessary in order to make the lake into an attractive regional recreation area. By doing so, more tourists and businesses will be attracted. A detail plan will also be suggested in the Community Facilities Plan.

Industrial:

The industrial land use in Firth, like many other smaller communities in Nebraska, occupies a very small percentage of the total developed land. Adequate space for expansion, improved thoroughfare accessibility, and protection from incompatible land uses should be provided in Firth in order to be ready for future industrial expansion.

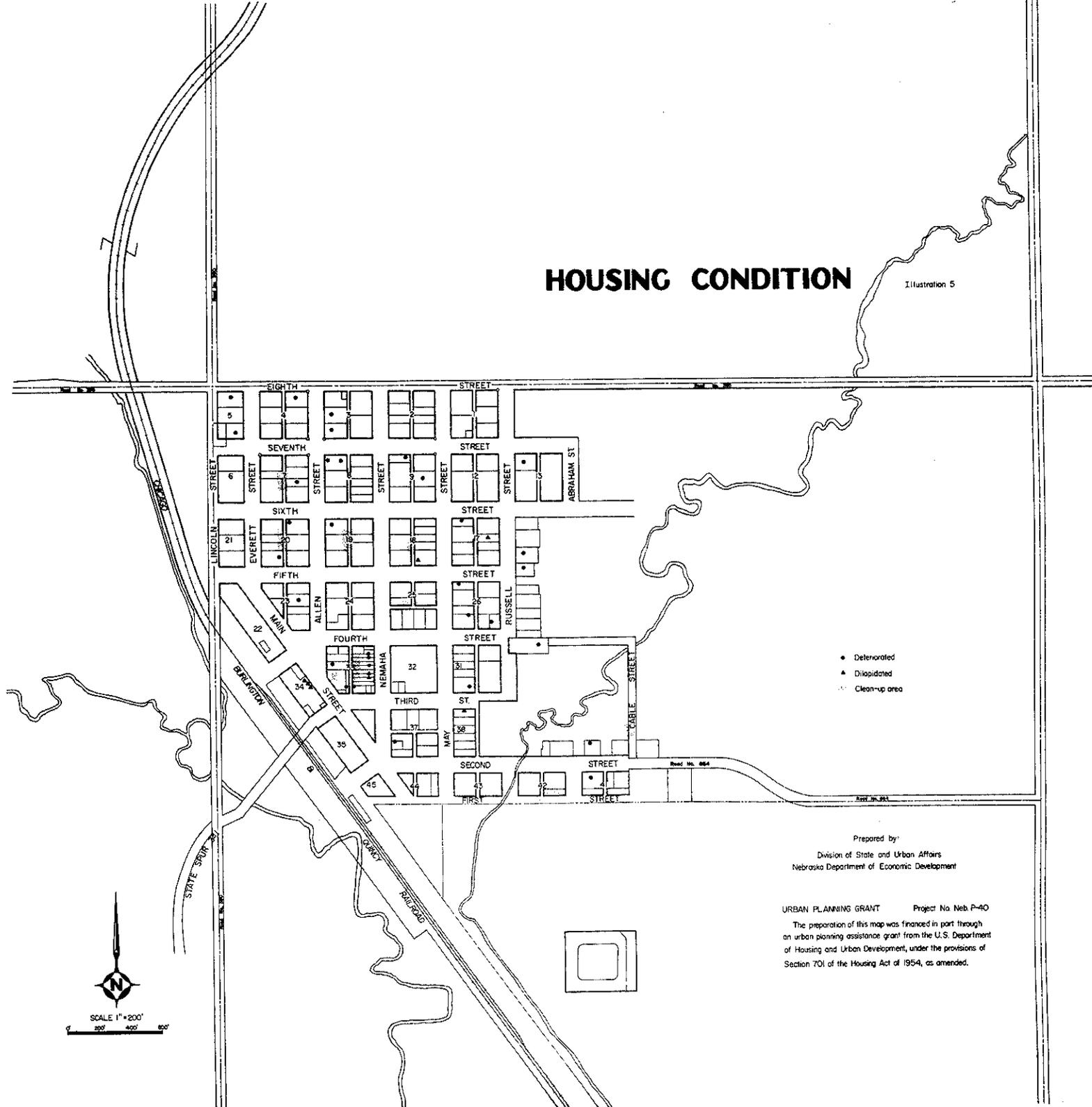
Streets and Alleys:

The problems of streets in Firth are: (1) mostly unpaved, and (2) excessive amount of land devoted to streets and alleys.

The uncontrolled street platting in the past is a problem that is difficult to correct. Proper controls can be placed on new subdivisions and developments to avoid high amount of expensive rights-of-way and unrelated patterns of streets and developed land. It is possible, in the case of Firth, to vacate unnecessary sections of presently platted streets in order to develop a new street pattern and release land for more intensive development.

HOUSING CONDITION

Illustration 5



- Deteriorated
- ▲ Dilapidated
- Clean-up area

Prepared by:
 Division of State and Urban Affairs
 Nebraska Department of Economic Development

URBAN PLANNING GRANT Project No. Neb. P-40
 The preparation of this map was financed in part through
 an urban planning assistance grant from the U.S. Department
 of Housing and Urban Development, under the provisions of
 Section 701 of the Housing Act of 1954, as amended.



Vacant or Agricultural Land:

The Village has 38.9 per cent of vacant land within the corporate limits. Since almost all of them are developable, they should first be developed before any expansion to the north is occurred. In this case, little or no extension of utilities and community facilities will be necessary in the near future.

Environmental Evaluation

Firth is a clean and pleasant community. With the exception of a few houses, majority of them are very well kept. However, some "eye-sores" and mixed land uses are noticeable, especially in the Central Business District.

In September 1968, a field investigation was made of all structures used for residential purposes in the Village. Each structure was classified by the field inspector as sound, deteriorating or dilapidated according to the following definition:

Sound -

Structurally sound and in good repair, need no more than minor repairs or normal maintenance.

Deteriorated -

Needing major repairs, structural or mechanical, but clearly worth preserving.

Dilapidated -

Needing sufficient major repair work that preserving is judged uneconomical or infeasible.

Clean-Up Area -

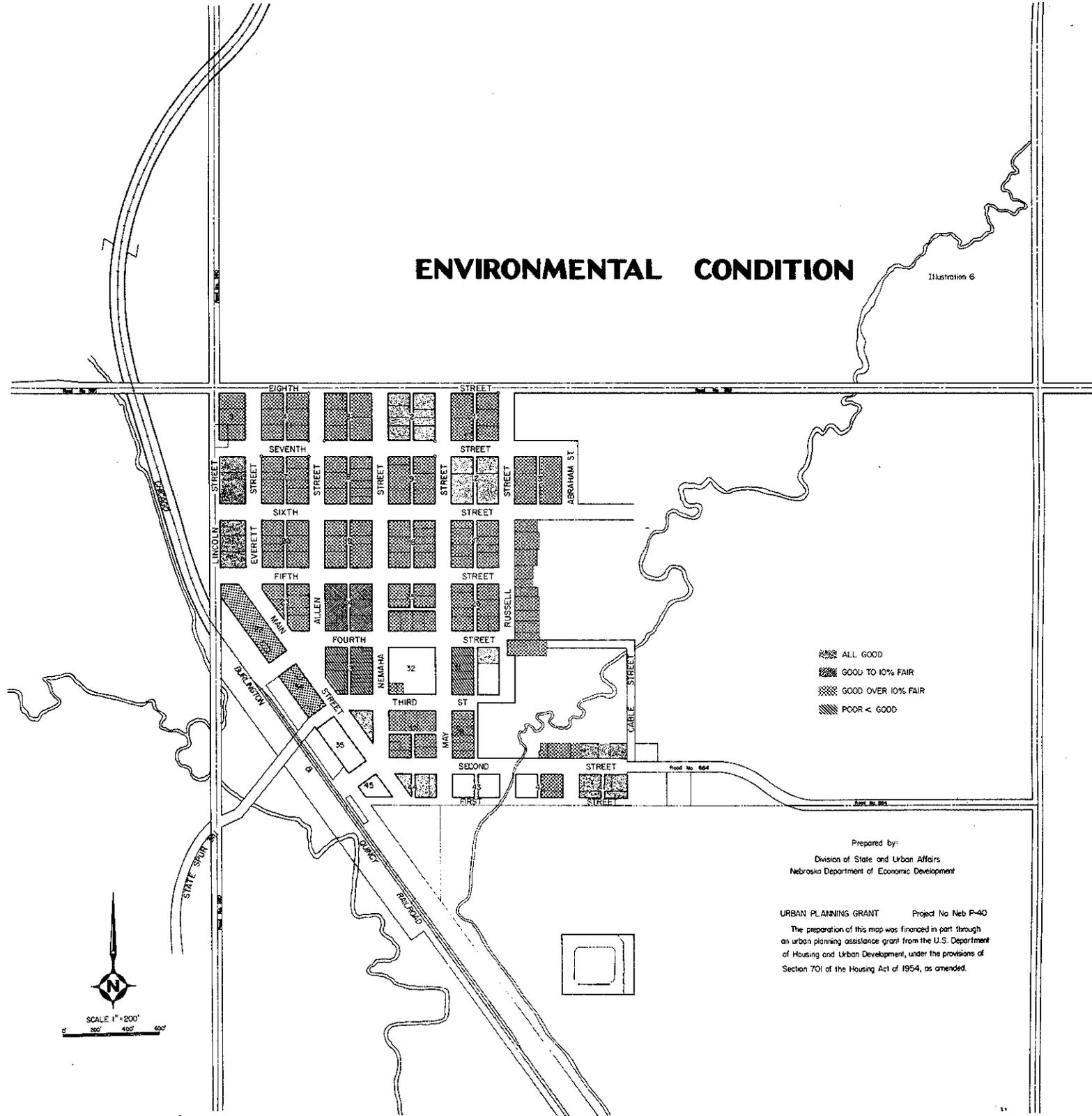
An area that is piled up with junk, trash, abandoned vehicles or farm machinery and needs clean up efforts.

Illustration 5 records the housing conditions in the community. Thirty-two houses are classified as deteriorated, eight as dilapidated and eight clean-up areas.

With the help of the Comprehensive Health Planning, State of Nebraska, a Community Block Survey was also conducted on October 24, 1968, to determine selected environmental factors related to communicable disease control. These factors include land use, exterior housing quality, water supply, human waste disposal, refuse storage, rubble accumulations, junk cars, dilapidated sheds, vacant lots, sanitation, presence of livestock, poultry and dog pens, poor drainage areas and vector harborage. The result of the survey was recorded on Illustration 6. The survey indicated that only two blocks, one of which is Central Business District, have more poor environmental factors than good factors. All the other blocks in the community are either in good condition or in satisfactory condition.

ENVIRONMENTAL CONDITION

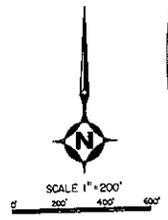
Illustration 6



- ALL GOOD
- GOOD TO 10% FAIR
- GOOD OVER 10% FAIR
- POOR < GOOD

Prepared by:
 Division of State and Urban Affairs
 Nebraska Department of Economic Development

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ECONOMIC BASE STUDY

ECONOMIC BASE STUDY

Economic base study is an analysis of the prime factors which determine the future growth of population and the development of a community. These factors are employment, income, retail trade, wholesale trade, selected service, agriculture and other pertinent factors.

Employment

Employment opportunity in Firth is limited. Recent survey indicated that with the exception of farm workers, 53 people are employed in various businesses and industries in the community, and 58 people are employed in Lincoln, 2 in Beatrice and 1 in Hickman. The phenomenon of having many people employed out of the community proved that job opportunity is scarce, and this is also the main reason young people are migrating to bigger communities for better opportunities. The following table indicates the commercial and industrial establishments, and the number of employees in each establishment.

Table 3
COMMERCIAL AND INDUSTRIAL ESTABLISHMENTS

<u>Establishment</u>	<u>No. of Employees</u>
Laundromat	1
Attorney	2
Firth Hatchery	2
Cafe	6
Electric Shop	1
Bank	2
Firth Grocery	5
Lumber	2
Gas Station	3
Co-op Gas Station & Garage	6
Grain Elevator & Storage	8
T.V. Repair	2
Beauty Shop	3
Excavating Company	2
Ceramic Work	2
Produce	5
Transfer	<u>1</u>
TOTAL	53

Source: Firth Planning Commission, 1968.

Income

Income is another valuable index of the economic health of the community. The standard of living, efficiency of production, and general economic activity are reflected in the income of the community. Income, however, is not as convenient a measure of economic health as population, employment trend or selected industrial trend,

Table 4
FAMILY INCOME
FIRTH, GAGE COUNTY, LANCASTER COUNTY, NEBRASKA

Income in Dollars	FIRTH* 1968		GAGE CO.** 1960	LANCASTER CO.** 1960	NEBRASKA** 1960
	No. of Families	% of Families	% of Families	% of Families	% of Families
Under \$1000	1	0.8	7.0	2.7	5.5
\$1000 to \$1999	19	15.3	12.1	5.2	9.2
\$2000 to \$2999	10	8.0	14.5	7.4	11.4
\$3000 to \$3999	0	0.0	17.2	10.4	12.8
\$4000 to \$4999	10	8.0	13.4	12.6	13.0
\$5000 to \$5999	0	0.0	11.2	14.8	12.6
\$6000 to \$6999	20	16.0	7.8	12.9	9.7
\$7000 to \$7999	15	12.2	5.1	9.0	7.1
\$8000 to \$8999	25	20.2	3.6	7.2	5.2
\$9000 to \$9999	8	6.5	2.0	5.0	3.5
Over \$10,000	<u>16</u>	<u>13.0</u>	<u>6.1</u>	<u>12.8</u>	<u>10.0</u>
TOTAL	124	100.0	100.0	100.0	100.0
Median Income		\$6275	\$3953	\$5798	\$4862

Source: *Firth Planning Commission, 1968
**1960 United States Census

since reliable income data is scarce. Therefore, available data should be used only as an indication of trends and rough comparisons.

Family incomes of Firth, Gage County, Lancaster County and the State of Nebraska are shown on Table 4. It indicates that approximately 43 per cent of Firth's family income is over \$7000 per year, and 13 per cent of family income is \$10,000 or more. The medium income is \$6275, which is higher than the medium income of Gage County, Lancaster County and the State of Nebraska. The fact that Firth's family income which was taken in 1968 tends to exaggerate somewhat when it compares with the 1960 census figures for Gage County, Lancaster County and the State of Nebraska. But the average annual family income of \$6275 is still a rather high figure for a small rural community like Firth.

Trade Area

Trade area is the supporting area of local businesses, and the place where majority of the downtown patronage comes from. The Firth trade area was derived from the following methods:

1. Interviews with local businesses such as lumber yard, grocery store, bank, restaurant and the co-op garage.
2. The number and quality of roads connecting Firth with outlying areas.

3. The accessibility and attractiveness of competing trade centers.

The result is shown on Illustration 7 entitled Trade Area. It consists of a large portion of Lancaster County and Gage County, and some portions of Otoe and Johnson Counties. It encompasses an area of about 121 square miles. A survey indicates that about 1345 families or approximately 4035 persons are now living in the trade area.

Retail Sale, Wholesale, and Selected Service

Sales Management, "Survey of Buying Income" estimated some pertinent figures for Lancaster and Gage Counties which comprise the majority of Firth's trade area. It shows that the effective buying income in Lancaster County in 1967 was \$520,039,000 as compared to retail sales of \$247,827,000. This means that only about 47.5 per cent of the available money was spent in the County while 52.5 per cent was spent elsewhere or not at all. In the same year, 69.5 per cent of the available money in Gage County was spent in the County. Table 5 shows the trend of effective buying income and retail sales for Lancaster, Gage, Otoe and Johnson Counties.

TRADE AREA

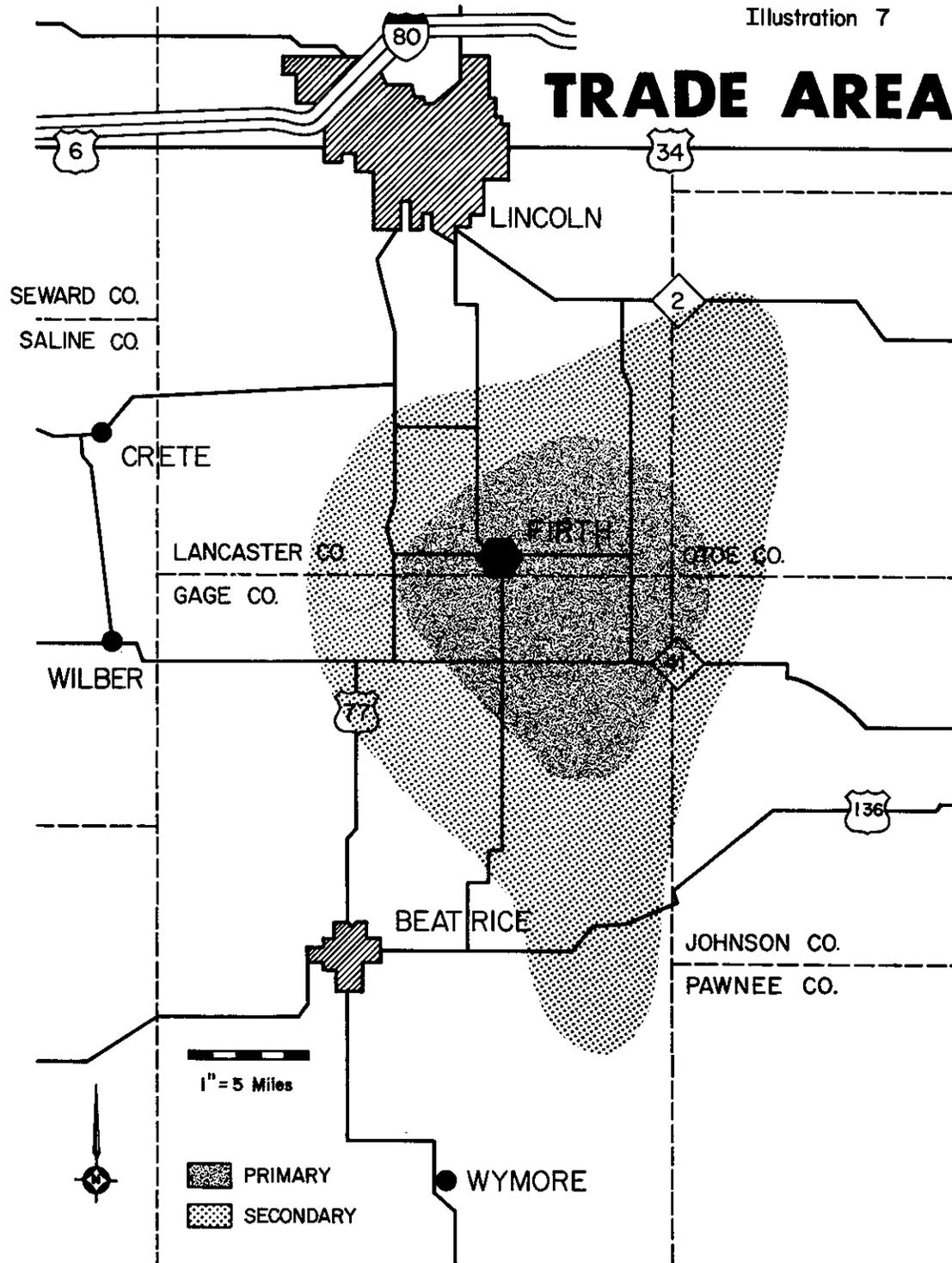


Table 5
RETAIL SALES AND EFFECTIVE BUYING INCOME

<u>Year</u>	<u>County</u>	<u>Effective Buying Income</u>	<u>Retail Sale</u>	<u>Retail Sales as Per Cent of Effective Buying Income</u>
1960	Lancaster	\$297,382,000	\$198,192,000	67.0
1960	Gage	42,779,000	30,958,000	72.5
1960	Otoe	30,158,000	23,793,000	75.1
1960	Johnson	9,807,000	6,722,000	68.5
1963	Lancaster	384,686,000	235,560,000	61.0
1963	Gage	46,324,000	31,826,000	69.0
1963	Otoe	29,230,000	26,144,000	89.5
1963	Johnson	7,781,000	6,541,000	84.0
1967	Lancaster	520,039,000	247,827,000	47.5
1967	Gage	63,787,000	44,183,000	69.5
1967	Otoe	41,642,000	29,798,000	71.5
1967	Johnson	11,318,000	9,470,000	83.5

Source: Sales Management, "Survey of Buying Power", 1960-1967.

Table 6
 RETAIL, WHOLESALE AND SELECTED SERVICES

	<u>1954</u>	<u>1958</u>	<u>1963</u>	<u>Per Cent Change 1954 - 1963</u>
<u>Retail</u>				
Establishment	1,158	1,148	1,139	-1.6
Sales (000)	\$152,393	\$183,207	\$229,053	50.0
<u>Wholesale</u>				
Establishment	195	222	232	19.0
Sales (000)	\$108,863	\$142,129	\$208,940	100.0
<u>Selected Services</u>				
Establishment	710	791	928	31.0
Receipts (000)	\$ 18,973	\$ 26,376	\$ 38,480	106.0

Source: U.S. Census of Business, Retail Trade, Wholesale Trade and Selected Service, 1954-1963

The table shows that the general trend was increasing in the effective buying income and retail sale for the past seven years. The retail sale as per cent of effective buying income, however, was decreasing in Lancaster County, but increasing in Gage, Otoe and Johnson Counties.

As shown in Table 6, the U.S. Census of Business reported 1139 retail establishments in Lancaster County in 1963 with a volume of \$229,053,000 in retail sales, or an average of \$201,100 per establishment. Between 1954 and 1963, the retail establishments had decreased from 1158 to 1139, or a decrease of 1.6 per cent, yet the sales volume increased 50.0 per cent in the same nine-year period.

In 1963, Lancaster County reported 232 wholesale establishments, and \$208,940,000 sales, which was about double since 1954.

The U.S. Census of Business also reported that there were 928 selected services with \$38,480,000 sales volume in 1963 which was an increase of 106.0 per cent since 1954.

Table 7
FARMS, FARM VALUE AND FARM ACREAGE
LANCASTER COUNTY
1964 and 1959

<u>Subject</u>	<u>1964</u>	<u>1959</u>
Approximate Acres of Land Area	54,800 A	54,800 A
Proportion in Farms	87.8	90.4
Total Farms	1,774	2,067
Acres in Farms	267.5	236.4
Average per Farm	58,558	45,127
Average per Acre	222.14	181.54
Farms by Size		
Less than 10 Acres	64*	79*
10 to 49 Acres	155	183
50 to 69 Acres	41	30
70 to 99 Acres	163	184
100 to 139 Acres	101	108
140 to 179 Acres	244	350
180 to 219 Acres	83	119
220 to 259 Acres	180	235
260 to 499 Acres	545	651
500 to 999 Acres	176	115
1000 to 1999 Acres	20	11
2000 Acres or more	2	2

Source: U.S. Census of Agriculture, 1959 and 1964.

*Number of farms

Agriculture

Firth is located in an area defined as the Corn Belt - Winter Wheat Transition Sub-region. Corn, wheat and livestock are the major income producers with fruit and nuts, poultry and dairy supplementing the major crops. Lancaster County, like the rest of the Midwest, has experienced a decrease in the number of farms, increase in the size of farming units, and decrease in farm families. This trend is the result of agricultural mechanization and decreasing farm income. As small farmers find the maintenance of a minimum living subsistence more difficult, they migrate to cities and communities seeking job opportunities.

The farm statistics of Table 7 for Lancaster County show that from 1959 to 1964, total number of farms decreased from 2067 to 1774; farm size increased from 236.4 acres to 267.5 acres; average value per farm increased from \$45,127 to \$58,558; and average value per acre increased from \$181.54 to \$222.14. The statistics reveal that with the exception of farms with sizes ranging from 50 to 69 acres, 500 to 999 acres, and 1000 to 1999 acres, all the other small farms are decreasing in number.

The future economic functions of Firth will continue to be a service center for the surrounding farmers and a bedroom community for Lincoln and Beatrice. Firth will be capable of expanding its services in farm equipment, farm products and banking services.

At the completion of the Firth Lake Recreation area, Firth can be a recreation center as well.

The crucial factor that will help Firth's growth is to attract small industries into the community. These may be the manufacturing of farm oriented machinery, expansion of home grown industries and building construction. The Nebraska Department of Economic Development can help the local communities to select industrial sites, industrial expansions and market analysis. It is recommended that the Village Board and the Planning Commission contact the Division of Industrial Development of the Department of Economic Development for factual information.

Modern Industrial District

As mentioned earlier, a good balance of industry is the key to economic and physical growth of the community. Modern industrial districts should be located in areas where they will not adversely affect adjacent land uses through the exclusive industrial zone or industrial park concept. Industrial park type of development allows industries to locate in areas with similar uses thereby limiting adverse effects created by the industry from other non-compatible or more obnoxious uses. Industrial parks may also provide advantages not found on small sites such as controlled traffic access, proper location of railroad spurs, utilities at more economic rates, and adequate off-street parking and loading facilities.

For modern industrial districts, the following standards should be used as a guide:

Physical Features:

1. Acres should not be subject to flooding.
2. The slope of the land should not exceed 5 per cent.
3. Soils should be sufficiently stable to support foundations for buildings.
4. Sites should be located considering the prevailing winds.
5. An adequate supply of industrial water should be available.

Access:

1. Sites should be reasonably convenient to residential areas.
2. Sites should have access to major thoroughfares without penetration of residential areas.

Land Use:

1. Sites should not be pre-empted by other land uses.
2. Sites should not be located within or adjacent to existing or potential slum areas.
3. Site development standards should be established and enforced.

Community Facilities:

1. Electric power, gas, and other industrial power resources should be available.
2. Adequate water and sewerage should be available, including industrial waste disposal.

Transportation Services:

1. Sites should be no more than one-half mile from railroad main lines and/or one mile from a major thoroughfare or highway.
2. Air related industries should be located adjacent to air terminal facilities.

POPULATION STUDY

POPULATION

The population study and projection is used to form a basis for the future land use requirement so that schools, parks, public buildings, utilities and streets can be provided as population grows.

The population of Firth can best be understood by relating them to those of the past history, the area, the county, the state and the nation. This section presents the comparative analysis of population distribution, characteristics, and projections of Firth.

Population Trend

The population may change because of migration. People generally migrate to and from areas of greater or lesser opportunities. The population may also change because of the resident births and deaths - these are termed as natural increase or decrease. The population of Firth has increased from 1880 to 1910. From 1910 to 1950 the village suffered from a general decline in population due to the changes in economic structure. Agriculture was no longer a primary employer, and more and more farm workers moved into metropolitan areas where job opportunities in business and industry existed. The population of Firth increased steadily since 1950 due to the fact that Firth is located within the Lincoln Standard Metropolitan Statistical Area (SMSA) where the population growth rate is above the regional SMSA average.

Another important factor which contributed to Firth's growth was the in-migration of retired farmers from the surrounding area. The most recent population estimate of 330 people is the highest figure in the history of Firth except in 1910, when the population was 343. Table 8 shows the number and percentage of population change per decennial year since 1880.

The population trend for South Pass Precinct, Firth, Lancaster County, State of Nebraska, and the United States have been listed in Table 9. As may be seen in this table, the population of the United States expanded more than twofold from 1900 to 1960, whereas the State of Nebraska increased only 32.4 per cent. Lancaster County has experienced a steady growth from 64,835 persons in 1900 to 155,272 persons in 1960, or an increase of 240 per cent. In comparison, Firth had a slower rate of growth than the Lancaster County, the United States and the State of Nebraska, but a faster growth rate than South Pass Precinct.

The population trend since 1900 between all twelve villages in Lancaster County was compared in Table 10. With the exception of Hallam, Hickman, and Waverly, Firth had the greatest growth trend among these villages.

Table 11 shows the population trend comparisons between Lancaster County and its adjacent counties. The table indicates that the population in Lancaster County has more than doubled, whereas the population in the surrounding counties decreased since 1900.

Table 8
POPULATION TREND
Firth, Nebraska
1880 - 1968

<u>Year</u>	<u>Population</u>	<u>Change</u>	<u>Per Cent Change</u>
1880	230	---	---
1890	259	+29	+12.6
1900	307	+48	+18.5
1910	343	+36	+11.7
1920	322	-21	- 6.1
1930	322	0	0.0
1940	323	+ 1	+ 0.3
1950	245	-78	-24.2
1960	277	+32	+13.1
1968	330*	+53	+19.2

Source: United States Census, 1880 - 1960

*Survey by Nebraska Department of Economic Development

Table 9
 POPULATION TREND
 for
 South Pass Precinct
 Village of Firth
 Lancaster County
 State of Nebraska
 United States

<u>Year</u>	<u>South Pass Precinct</u>	<u>Percent of Change</u>	<u>Firth</u>	<u>Percent of Change</u>	<u>Lancaster County</u>	<u>Percent of Change</u>	<u>Nebraska (000)</u>	<u>Percent of Change</u>	<u>U. S. (000)</u>	<u>Percent of Change</u>
1900	1,257	-----	307	-----	64,835	-----	1,066	-----	76,212	-----
1910	1,180	-6.1	343	+36.0	73,793	+13.9	1,192	+11.8	92,228	+21.0
1920	1,178	-0.2	322	-21.0	85,902	+16.4	1,296	+8.7	106,021	+14.9
1930	1,043	-11.5	322	0.0	100,324	+16.8	1,378	+6.3	123,202	+16.2
1940	889	-14.7	323	+0.3	100,585	+0.3	1,316	-4.5	132,165	+7.3
1950	747	-16.0	245	-24.2	119,742	+19.1	1,326	+0.7	151,326	+14.5
1960	818	+9.5	277	+13.1	155,272	+30.0	1,411	+6.5	176,323	+15.6

Source: United States Census, 1900 - 1960

Table 10
 POPULATION TREND COMPARISONS
 BETWEEN
 VILLAGES IN LANCASTER COUNTY
 1900-1960

<u>Villages</u>	<u>1900</u>	<u>1910</u>	<u>Percent of Change</u>	<u>1920</u>	<u>Percent of Change</u>	<u>1930</u>	<u>Percent of Change</u>	<u>1940</u>	<u>Percent of Change</u>	<u>1950</u>	<u>Percent of Change</u>	<u>1960</u>	<u>Percent of Change</u>
Hallam	----	168	-----	212	+26.2	193	- 9.0	168	-13.0	172	+ 2.4	264	+53.5
Sprague	----	----	-----	112	-----	135	+20.5	121	-10.4	110	- 9.1	120	+ 9.1
Denton	----	----	-----	145	-----	114	-21.4	126	+10.5	101	-19.9	94	- 6.9
Malcolm	----	----	-----	125	-----	121	- 3.2	121	0.0	93	-23.2	116	+24.8
Bennet	495	457	- 7.7	473	+ 3.5	428	- 9.5	412	- 3.7	396	- 3.9	381	- 3.8
Raymond	200	236	+18.0	249	+ 5.5	205	-17.7	199	- 2.9	196	- 1.5	223	+13.8
Panama	----	230	-----	210	- 8.7	198	- 5.7	174	-12.1	168	- 3.5	155	- 7.8
Davey	----	----	-----	123	-----	154	+25.2	125	-18.8	112	-14.0	121	+ 8.0
Hickman	382	388	+ 1.6	380	- 2.1	302	-20.6	320	+ 6.0	276	-12.8	288	+ 3.2
Roca	177	129	-27.0	133	+ 3.1	107	-19.5	127	+18.7	105	-17.3	123	+17.2
Waverly	266	297	+11.7	334	+12.5	315	- 5.7	306	- 2.9	310	+ 1.3	511	+65.0
Firth	307	343	+11.7	332	- 3.2	322	- 3.0	323	+ 0.3	245	-24.2	277	+13.1

Source: United States Census, 1900 - 1960

Table 11
 POPULATION TREND COMPARISONS
 BETWEEN LANCASTER COUNTY AND
 ADJACENT COUNTIES
 1900-1960

<u>Counties</u>	<u>1900</u>	<u>1910</u>	<u>Percent of Change</u>	<u>1920</u>	<u>Percent of Change</u>	<u>1930</u>	<u>Percent of Change</u>	<u>1940</u>	<u>Percent of Change</u>	<u>1950</u>	<u>Percent of Change</u>	<u>1960</u>	<u>Percent of Change</u>
Saunders	22,085	21,179	- 4.4	20,589	- 2.9	20,167	- 2.1	17,892	-11.2	16,923	- 5.4	17,270	+ 2.0
Cass	21,330	19,786	- 7.3	18,029	- 8.9	17,684	- 1.9	16,992	- 3.9	16,361	- 3.7	17,821	+ 8.9
Otoe	22,288	19,323	-13.3	19,494	+ 0.9	19,901	+ 2.1	18,994	- 4.6	17,056	-10.2	16,503	- 3.2
Johnson	11,197	10,187	- 9.0	8,940	-12.2	9,157	+ 2.4	8,662	- 5.4	7,251	-16.3	6,281	-13.4
Gage	30,051	30,325	+ 0.9	29,721	- 2.0	30,242	+ 1.8	29,588	- 2.2	28,052	- 5.2	26,818	- 4.4
Saline	18,252	17,866	- 2.1	16,514	- 7.6	16,356	- 1.0	15,010	- 0.8	14,046	- 6.0	12,542	-10.8
Seward	15,690	15,895	+ 1.3	15,867	- 0.2	15,938	+ 0.4	14,167	-11.2	13,155	- 7.1	13,581	+ 3.2
Butler	15,703	15,403	- 1.9	14,606	- 7.0	14,410	- 1.3	13,106	- 9.0	11,432	-12.8	10,312	- 9.8
Lancaster	64,835	73,793	+13.9	85,902	+16.4	100,324	+16.8	100,585	+ 0.3	119,742	+19.0	155,272	+30.0

Source: United States Census, 1900 - 1960

The obvious reasons for such decline are the decrease in agricultural employment in these counties, and the out-migration of people to Omaha, Lincoln and some other metropolitan areas for better employment opportunity.

Table 12 is a comparison of population trend between villages of similar size in the adjacent counties of Firth. Like the previous tables, the population changes were reduced to per cent increases or decreases from each decennial census to the next. With the exception of Yutan in Saunders County, Firth again had the greatest growth trend among the villages of similar size since 1900.

From the five tables discussed above, it is clearly indicated that Firth had a greater growth trend than the majority of the villages in the surrounding area.

Population Characteristics

Illustration 8 shows the age composition of the population for Firth, Nebraska, and the United States. It indicates that the population groups of 0 to 4, 5 to 14, 15 to 24, 25 to 34, 35 to 44, and 45 to 54 in Firth are less than both the United States and Nebraska in percentage of total population. Yet the older age groups of

55 to 64, and 65 and over far exceed the percentage of the nation and the state.

In comparing the percentages of persons in each age group for 1960 and 1968 in Firth as shown in Illustration 9, it is found that age groups of 0 to 4, 15 to 24, 45 to 54, and 65 and over has increased. The age group of 5 to 14 remains about the same; while the age groups of 25 to 34, 35 to 44, and 55 to 64 have decreased in percentage.

The two Illustrations revealed the following facts: (1) Firth has a disproportionately large number of older people who are at their retired age. This means that the community should have adequate facilities for the older people such as housing for the aged, nursing home, passive recreation facilities and areas, and convenient shopping places. (2) There is a relatively small number of people ranging from 25 to 44 years old. This is an important population group since these people have completed their education and are ready or have joined the labor force of the community, married and established new homes. (3) The in-migration was greater than out-migration from 1960 to 1968. But there is a tendency that the younger people are gradually replaced by older ones.

The median age of Firth's population is 36.2 years as compared to 30.2 years for Nebraska and 29.2 years for the United States.

Table 12
 POPULATION TREND COMPARISONS
 BETWEEN
 VILLAGES OF SIMILAR SIZE IN ADJACENT COUNTIES
 1900-1960

<u>Villages</u>	<u>1900</u>	<u>1910</u>	<u>Percent of Change</u>	<u>1920</u>	<u>Percent of Change</u>	<u>1930</u>	<u>Percent of Change</u>	<u>1940</u>	<u>Percent of Change</u>	<u>1950</u>	<u>Percent of Change</u>	<u>1960</u>	<u>Percent of Change</u>
Yutan (Saunders)	263	253	- 3.8	300	-15.0	313	+ 4.3	268	-14.4	287	+ 7.1	335	+16.7
Union (Cass)	282	302	+ 7.1	292	- 3.3	316	+ 8.2	364	+15.2	277	-23.9	303	+ 9.4
Dunbar (Otoe)	208	216	+ 3.8	312	- 1.9	292	- 6.4	336	+15.1	228	-32.2	232	+ 1.8
Cook (Johnson)	---	387	-----	366	- 5.4	354	- 3.3	305	-13.9	332	+ 8.9	313	- 5.7
Cortland (Gage)	390	364	- 6.7	322	-11.5	318	- 1.2	307	- 3.5	288	- 6.2	285	- 1.0
Tobias (Saline)	672	445	- 4.0	357	- 2.7	402	+11.2	316	-21.4	240	-24.0	202	-15.9
Staplehurst (Seward)	211	228	+ 3.3	235	+ 3.1	254	+ 7.5	234	- 7.9	224	- 4.3	240	+ 7.2
Rising City (Butler)	499	459	- 8.6	460	+ 0.9	472	+ 2.6	420	-11.0	374	-11.0	308	-17.7
Firth (Lancaster)	307	343	+11.7	322	- 6.1	322	0.0	323	+ 0.3	245	-24.2	277	+13.1

Source: United States Census, 1900 - 1960

Illustration 8

POPULATION COMPOSITION

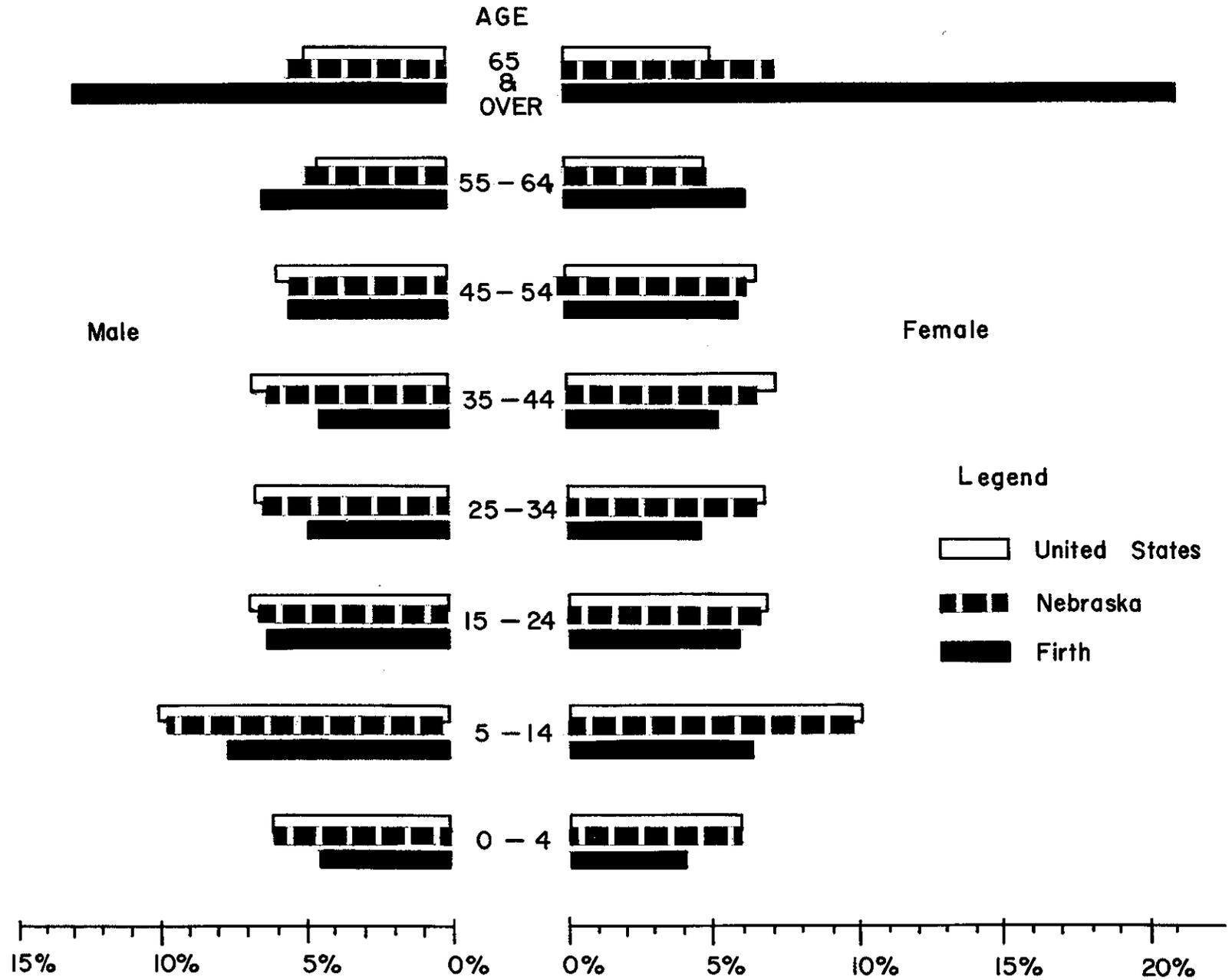
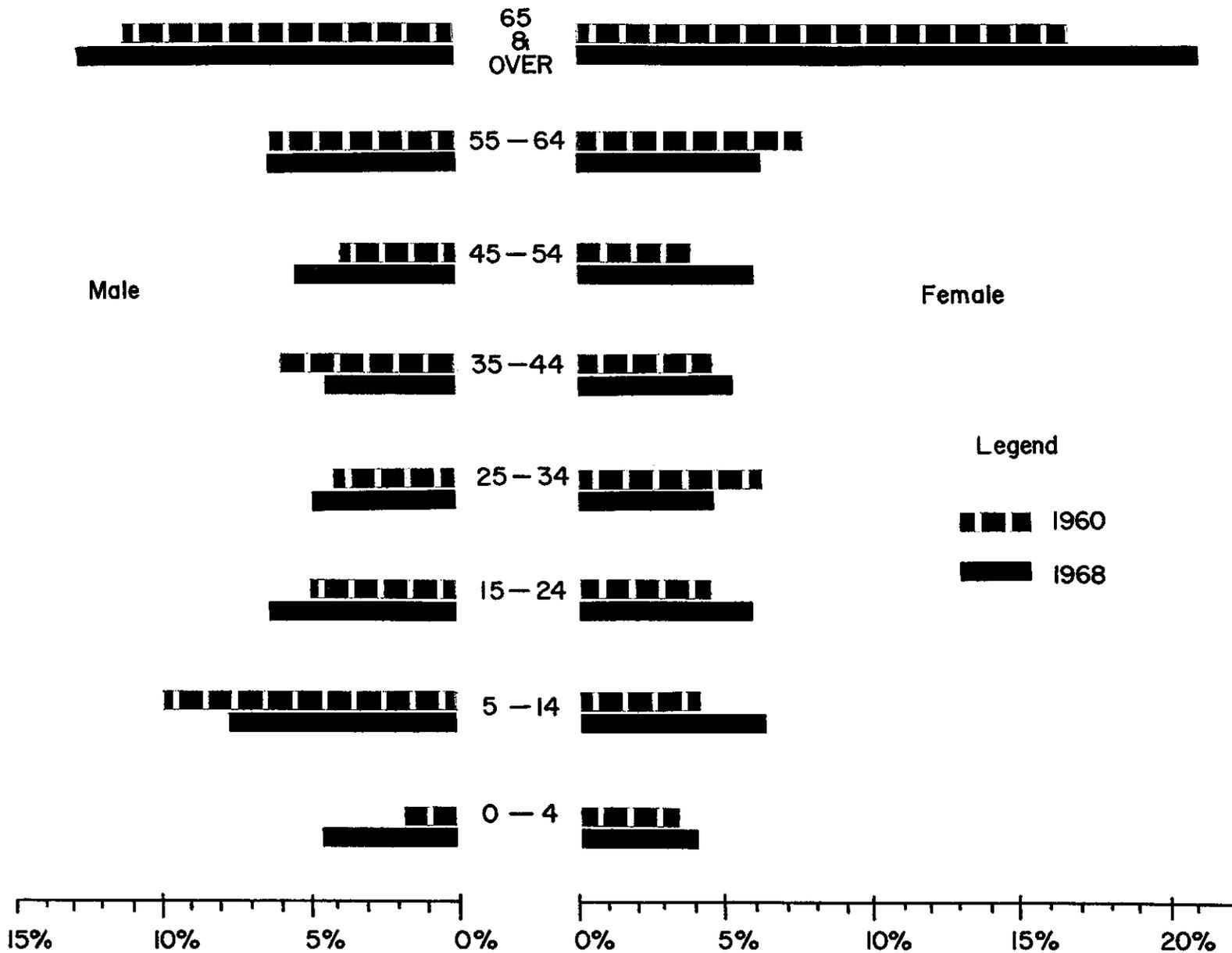


Illustration 9
 POPULATION COMPOSITION

FIRTH, NEBRASKA

1960 and 1968



There is no non-white population living in Firth. The population per household in 1968 was 2.44 persons as compared to 2.52 persons in 1960. Table 13 presents some of the population characteristics such as race, relationship, age and marital status of Firth.

Population Density

The density of population is an important measure of the intensity of use and of the concentration of people in areas of a city. When people are congregated too closely, public health and safety can be affected.

The population density in Firth is 9.6 persons per acre of residential land, or about 4 dwelling units per acre. This density is characteristic of small rural towns which are predominately residential. It is also indicative of a wholesome environment with ample open space, light and clean air.

The average lot size is approximately 14,000 square feet, and the lots range from 7,000 square feet to 21,000 square feet. The smaller lots occur at the Central Business District where lot splitting has occurred.

The low density environment in Firth is a good practice. This is an excellent standard and should be used in guiding future development.

Population Distribution

The graphic presentation on Illustration 10 shows the 1968 population distribution by age groups, they are: 0 to 9, 10 to 19, 20 to 39, 40 to 64, and 65 and over.

The 0 to 9 age group can be found mostly on the eastern half of the village. Majority of 10 to 19 and 20 to 39 age groups are located at northern half of the community. The age groups of 40 to 64 and 65 and over are distributed evenly over the community.

It is also shown on the same Illustration that the population density is higher on the northern half of the community, and many vacant lots on the southern half of the village.

Population Projection

In the population projection of a community, several variables and factors should be studied and analyzed. They are: (1) flexible city boundaries and possible annexation, (2) fluctuating migration, (3) a mobile population, (4) social and economic forces, and (5) urbanization. In most forecasts, certain assumptions are taken into account, such as no major depression, no major war, the form of government and the social and economic organization of the state, county and city will not change substantially, and there will be no great discovery of natural resources in the areas which will effect the growth of the community.

Table 13

POPULATION CHARACTERISTICS
Firth, Nebraska
1960

Race, relationship, age, and marital status

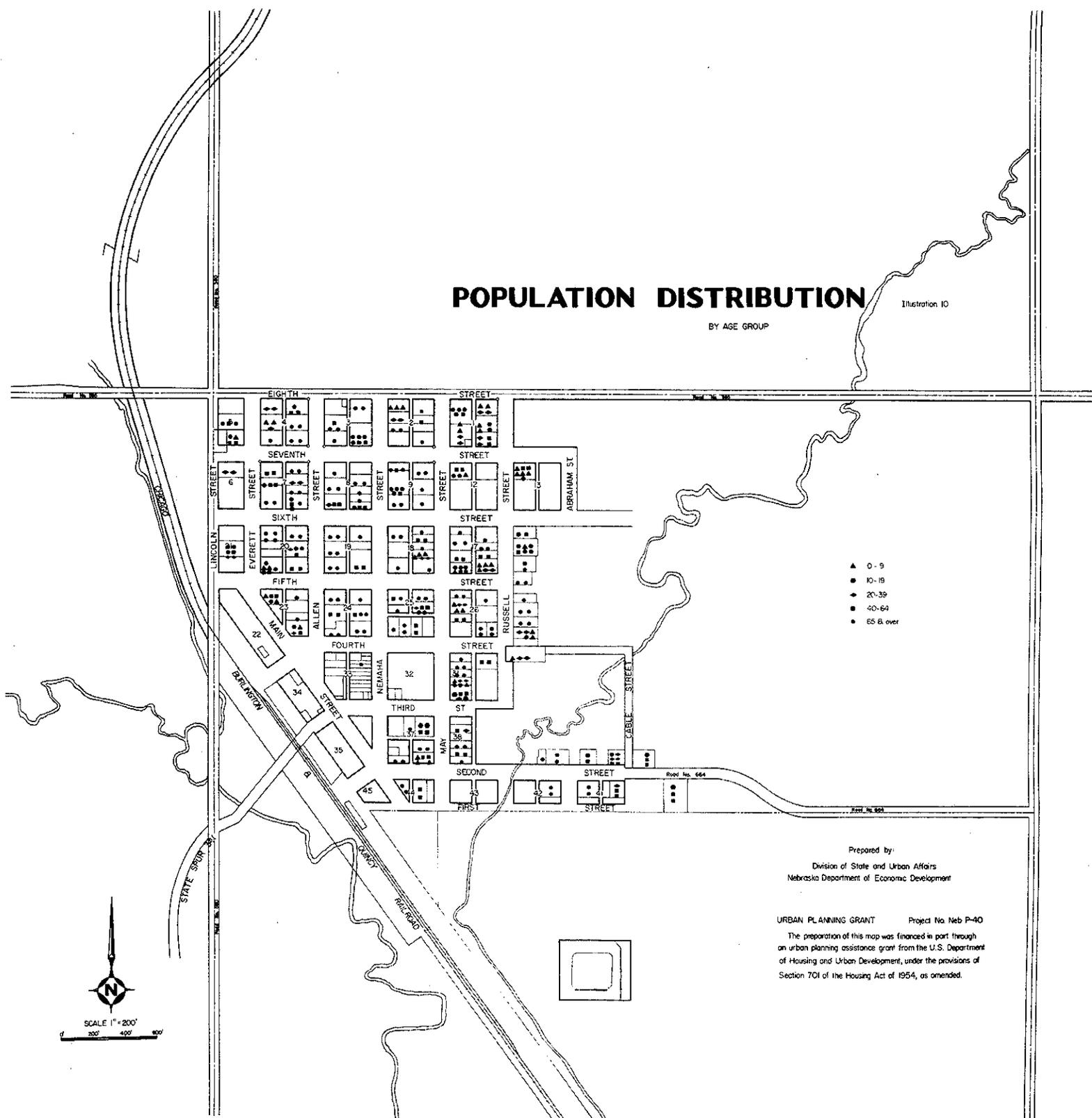
Total population	277
White	277
Negro	---
Other races	---
Total population	277
Population in Households	277
Head of household	110
Head of primary family	84
Primary individual	26
Wife of head	79
Children under 18	61
Other relative	29
Nonrelative	2
Population in group quarters	---
Inmate of institution	---
Other	---
Population per household	2.52

Source: United States Census, 1960

POPULATION DISTRIBUTION

Illustration 10

BY AGE GROUP



Prepared by:
 Division of State and Urban Affairs
 Nebraska Department of Economic Development

URBAN PLANNING GRANT Project No. Neb P-40

The preparation of this map was financed in part through an urban planning assistance grant from the U.S. Department of Housing and Urban Development, under the provisions of Section 701 of the Housing Act of 1954, as amended.

There are several methods of projecting population. If the economy is stable and well diversified, a simple extension of growth trends may provide a sufficient population forecast. If the community is dependent on a region, then this factor is of primary importance. In a small area like Firth where many data are lacking and the growth depends very much on Lincoln and Lancaster County, the ratio step down method is most appropriate. The method assumes that population growth will occur at the same rate as a larger region, usually the county, the state and the nation.

Table 14 shows the estimates of the population in 1990. Series A, B, and C of the U.S. population projection made by the U.S. Census Bureau were used as high, medium and low estimates. Through this ratio step down method, the high estimate for Firth is 720 people, and the medium figure is 469, and the low projection is 286 people in year 1990.

For planning purpose, the medium estimate of 469 people in 1990 will be used. The reason is that all population projection is only an indication of what can happen rather than what will happen. Giving the medium estimate will insure the village to provide adequate and realistic land reserves for future growth in case it happens as predicted.

The following tabulation is the optimistic estimate of population for 5-year increments beginning with the year 1970.

OPTIMISTIC ESTIMATED POPULATION GROWTH

<u>Year</u>	<u>Population</u>
1970	342
1975	371
1980	402
1985	435
1990	469

School Age Population Projection

Based on the assumption that the school age population will increase approximately the same rate as the total population, and that the total population in 1990 will be 469, the number of families in Firth will be about 192 in 1990. (The number of persons per household is 2.44) According to the National School Standards of the U.S. Department of Health, Education and Welfare, there is an average of 0.75 students of all ages in the average family. Using this 0.75 factor, it is found that the total estimated number of students in Firth will be 144 in the year 1990.

Table 14
POPULATION PROJECTION
FIRTH, NEBRASKA

<u>Year</u>	<u>United States</u>	<u>Nebraska</u>	<u>Ratio of** Nebraska/U. S.</u>	<u>Lancaster County</u>	<u>Ratio of** Lancaster Co./Nebraska</u>	<u>Firth</u>	<u>Ratio of** Firth/Lancaster Co.</u>
1990 (High)	300,131,000*	2,401,048	0.8	360,157	15.0	720	0.20
1990 (Medium)	286,501,000*	2,005,507	0.7	260,716	13.0	469	0.18
1990 (Low)	270,770,000*	1,624,620	0.6	178,708	11.0	286	0.16

Source: *U. S. Bureau of Census, Series P-25 No. 381, December 18, 1967

**Ratios are obtained from the past trend, from 1910 to 1960.

The following breakdowns of number of students have been established by the U.S. Bureau of Census :

Elementary School	55% of students
Junior High School	23% of students
Senior High School	22% of students

Using the above breakdowns, it is found that there will be 79 elementary students, 33 junior high students, and 32 senior high students in 1990.

LAND USE PLAN

LAND USE PLAN

The purpose of the Land Use Plan is to bring about the public understanding of the need for orderly arrangement of the community, for separating the incompatible land uses, and for optimizing business and industrial opportunities.

Land Use Projection

The projected growth pattern of Firth is an indication of the amount of land that will be required for development within the planning period. It is based on the assumption that the Village will continue to be a bedroom community, and serve the surrounding rural area as business and service center.

Land use is also projected on the basis of the relationship existing between the amount of the land used and the population served. These ratios, expressed in terms of acres per 100 persons, were applied to the future population to develop the required acreages of land to serve the 1990 population. In the land use plan, future population was distributed to vacant land at densities compatible with surrounding area, and land use ratios applied to produce the necessary amount of land uses to serve the projected population. The land use assignment was then adjusted to assure that an over assignment had not been made.

Table 15 shows the developed land use ratios expressed in acres per 100 population inside the corporate limits of Firth. It compares the land use data of Firth with those of eleven cities under 1000 in Nebraska. As indicated in the table, Firth uses 33.7 acres per 100 population as compared to 26.1 acres for eleven cities under 1000. The difference is attributed to greater amount of land used for single family, railroad and streets. The greater amount of land used for residential is due to the relative spacious development and many vacant lots present in the Village. The original platting of land into short, square blocks has created an acreage of streets which exceeds need, and this kind of platting is largely responsible for the large acreage of streets.

Based on the knowledge of the existing land use, changing street patterns, modern subdivision design, ratios were adjusted for future planning purposes.

Table 16 indicates the land use projection by category. Column three shows the number of acres of land needed per 100 population in 1990. Column five shows the probable number of acres required by Firth based on the projected population of 469 in 1990.

Table 15

DEVELOPED LAND USE RATIOS
ACRES PER 100 POPULATION

<u>Land Use</u>	<u>Inside Firth Corporate Limits</u>	<u>Average for Cities Under 1000 in Nebraska*</u>	<u>Adjusted Ratios for Land Use Projections</u>
Single Family	10.4	8.6	10.4
Commercial	0.8	1.0	1.0
Public & Semi-Public	1.1	2.8	2.8
Parks & Recreation	1.4	1.0	2.0
Industrial	0.9	1.0	2.0
Railroad	4.2	2.1	2.1
Streets & Alleys	<u>14.9</u>	<u>9.6</u>	<u>8.0</u>
TOTAL	33.7	26.1	28.3

*These cities include Nelson, Hooper, Blue Hill, Shelton, Winnebago, Crofton, Elkhorn, Sargent, Oxford, Friend and Greeley.

Table 16

1990 LAND USE PROJECTION

<u>Land Use</u>	<u>Present City Area in Acres</u>	<u>Acres of Land Used Per 100 Persons in 1990</u>	<u>Acres Added by 1990</u>	<u>Acres Required by 1990</u>
Single Family	34.4	10.4	14.5	48.9
Commercial	2.8	1.0	1.4	4.2
Public & Semi-Public	3.5	2.8	3.9	7.4
Parks & Recreation	4.5	2.0	2.8	7.3
Industrial	3.1	2.0	2.8	5.9
Railroad	14.0	2.1	2.9	16.9
Streets & Alleys	<u>49.0</u>	<u>8.0</u>	<u>11.1</u>	<u>60.1</u>
TOTAL	111.3	28.3	39.4	150.7

Land Use Plan

The 1990 generalized land use plan is shown on Illustration 11. The plan calls for the expansion of residential area north of county road 395; the development of the Firth Lake recreation area on the east; and the reservation of an industrial tract west of the railroad. The expansion to the south is discouraged because of the Nemaha River and the sewage pond. In developing the Land Use Plan, close attention has been given to the topography, natural and man-made barriers, drainage, and utilities, so that the use of existing utilities can be optimized and the expansion of the Village can be most economical.

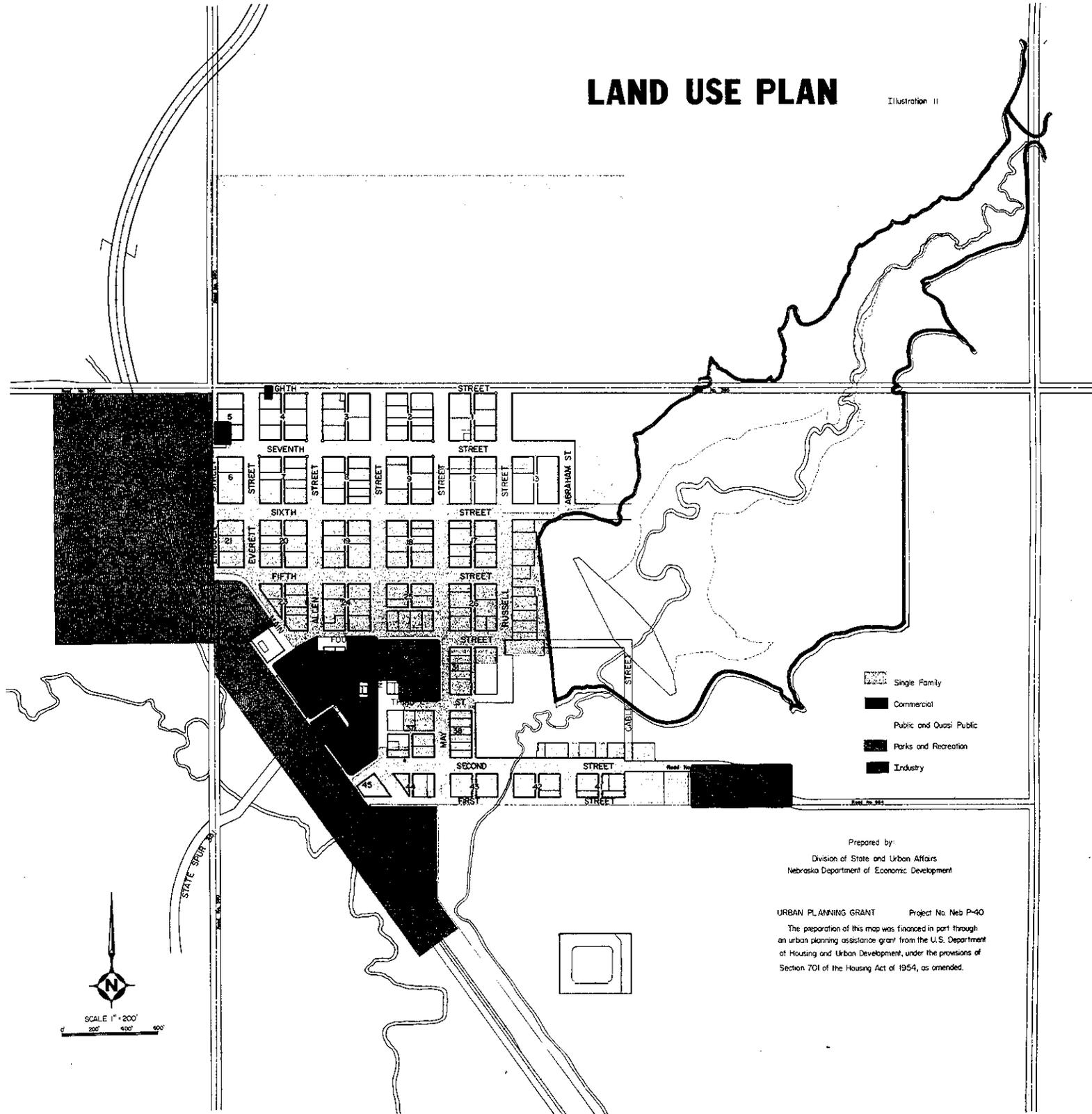
Before the expansion to the north, single family use should be encouraged to fill the vacant residential lots because utilities are readily available to these properties. The filling in the development should continue throughout the town until the various areas reached about 80% developed. Single family acreage per 100 persons is expected to remain 10.4 since the lot sizes are now comparatively large and residential density rather low. Using this 10.4 ratio, it is found that 14.5 additional acres will be needed by 1990. The land north of county road 395 is a relatively flat area, and is now vacant. New subdivision design technique can be employed to insure the optimum use of land.

It is anticipated that there will be no multi-family use in the next 20 years due to the rural character of the community. But if there is such a need, multi-family units or duplexes should be encouraged to locate near or adjoining the Central Business District to serve as a buffer zone. This will tend to preserve the property value of the adjacent single family units, and to better serve the commercial uses by walk-in trade from the high-density residential areas.

Additional commercial acreage will also be required to serve the future needs. According to the land use projection, a total of 4.2 acres of commercial land will be required. There are two alternatives to meet such a requirement. The first is to expand the Central Business District to its west and south directions where there are vacant lots. The second is to relocate the entire downtown commercial area to the new area north of the community.

LAND USE PLAN

Illustration II



A detailed layout for downtown improvement will be presented in the Central Business District Study.

Industrial acreage will rise from 1 acre per 100 population to 2 acres as the trend is for industry to locate in larger tracts with landscaping and ample parking spaces. In addition to the existing industrial land along the railroad, an industrial tract was chosen west of the railroad and south of the county road. This site is ideal for industry because it is relatively flat and has easy access to railroad and highway, and utilities are readily available.

The Firth Lake recreation area will provide more than adequately for the needs of park and recreation in the next 20 years. It would be desirable if the Village will annex this area so that proper maintenance and control can be achieved.

The future needs for streets and alleys should be kept to a minimum. Using the new techniques of subdivision layout, it is anticipated that 11.1 additional acres will be needed in 1990.

Based upon the projected land uses, a total of 150.7 acres of land will be required by 1990. If the Firth Lake is annexed, the total area in the corporate limits will be about 231.2 acres.

TRANSPORTATION PLAN

TRANSPORTATION PLAN

Regional Transportation

Firth's only transportation link with the region was the Chicago, Burlington and Quincy Railroad. At the advent of the automobile, highways gradually replaced the functions of the railroads. The railroad in Firth, however, still accounts for the movement of a considerable amount of freight and agricultural products into and out of the area.

The two most important highways that serve Firth are U.S. Highway #77 and Nebraska Highway #41. Highway #77 goes to Lincoln and Interstate 80 in the north, and connects Beatrice in the south. Nebraska Highway #41, which is only five miles south of the Village, goes to east and west directions and meets some of the larger cities in southeast Nebraska.

Firth is not served directly by air, but it is located only 20 miles from the Lincoln Municipal Airport which provides nationwide air service. People in Firth can also travel by Continental Trailway and Greyhound Bus from Lincoln to many parts of the country.

Existing Street System

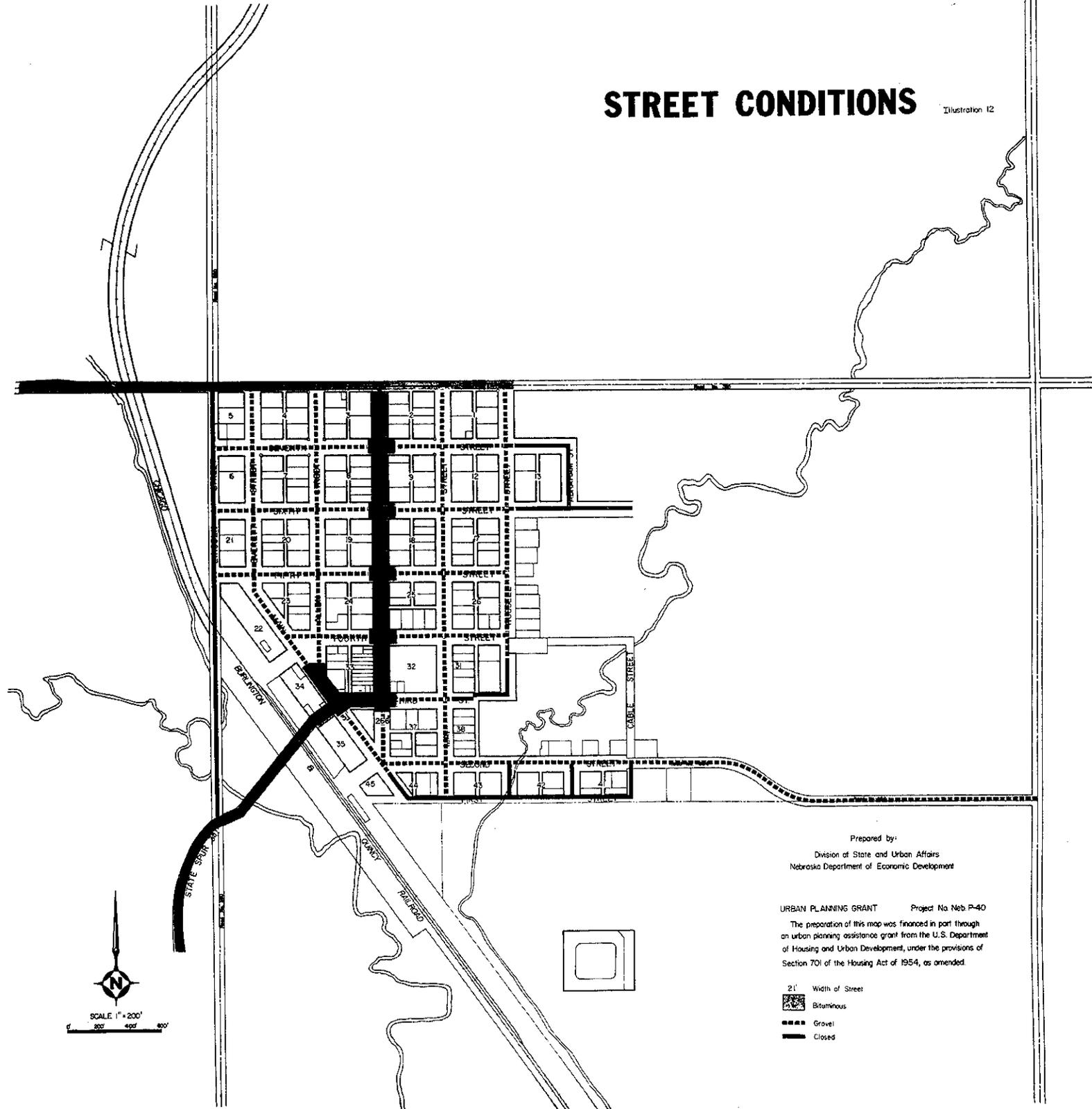
In a typical community, there are four types of streets. They are:

1. Arterial Thoroughfares - These carry the major flow of through traffic, both interregional and intraregional, and should be located peripherally to residential neighborhoods.
2. Primary Streets - These serve as connection between the principal traffic generation points and the surrounding area, and should be located peripherally to residential neighborhoods.
3. Collector Streets - These serve traffic moving between community neighborhoods and traffic generators to the primary and arterial streets.
4. Local Streets - These streets provide access to the individual properties and carry interneighborhood traffic, and traffic to the other streets.

With the exception of State Spur 341 and County Road 394, which are classified as arterial thoroughfare, all streets in Firth are local streets. The streets in the Village are laid in a grid pattern with 300 feet by 300 feet blocks. A survey shows that 11.5 per cent of the streets are paved; 66.5 per cent are gravel; and 22.0 per cent are closed. Closed streets are the platted streets but do not exist. The following table shows the mileage of different conditions of streets.

STREET CONDITIONS

Illustration 12



Prepared by:
Division of State and Urban Affairs
Nebraska Department of Economic Development

URBAN PLANNING GRANT Project No. Neb P-40

The preparation of this map was financed in part through an urban planning assistance grant from the U.S. Department of Housing and Urban Development, under the provisions of Section 701 of the Housing Act of 1954, as amended.

- 21' Width of Street
- Bituminous
- Gravel
- Closed

Table 17

MILEAGE OF DIFFERENT TYPES OF STREETS

Paved Streets	0.57 miles	11.5%
Gravel Streets	3.30 miles	66.5%
Closed Streets	<u>1.10 miles</u>	<u>22.0%</u>
TOTAL	4.97 miles	100.0%

Source: Survey by Nebraska Department of Economic Development - 1968

As mentioned earlier, only 11.5 per cent of the streets in Firth are paved. The Nebraska Department of Roads recommends that a community which has a population of less than 800 should have at least 45 per cent of the streets paved. The pavement widths, as indicated in the street conditions map, range from 20 feet 6 inches to 58 feet 4 inches. Nemaha Street, the only paved street in the Village has a uniform paving width of 21 feet. The paving material is bituminous, and most of them are in good condition.

The rights-of-way width of streets in Firth are all 100 feet, and this is more than adequate for the carrying capacity of local streets. Parking is allowed on all streets, and most parking is parallel, except in the business district where diagonal parking is used. There is only one railroad grade crossing in the Village, but the traffic volume and rail traffic are so low that no serious conflicts result at this crossing.

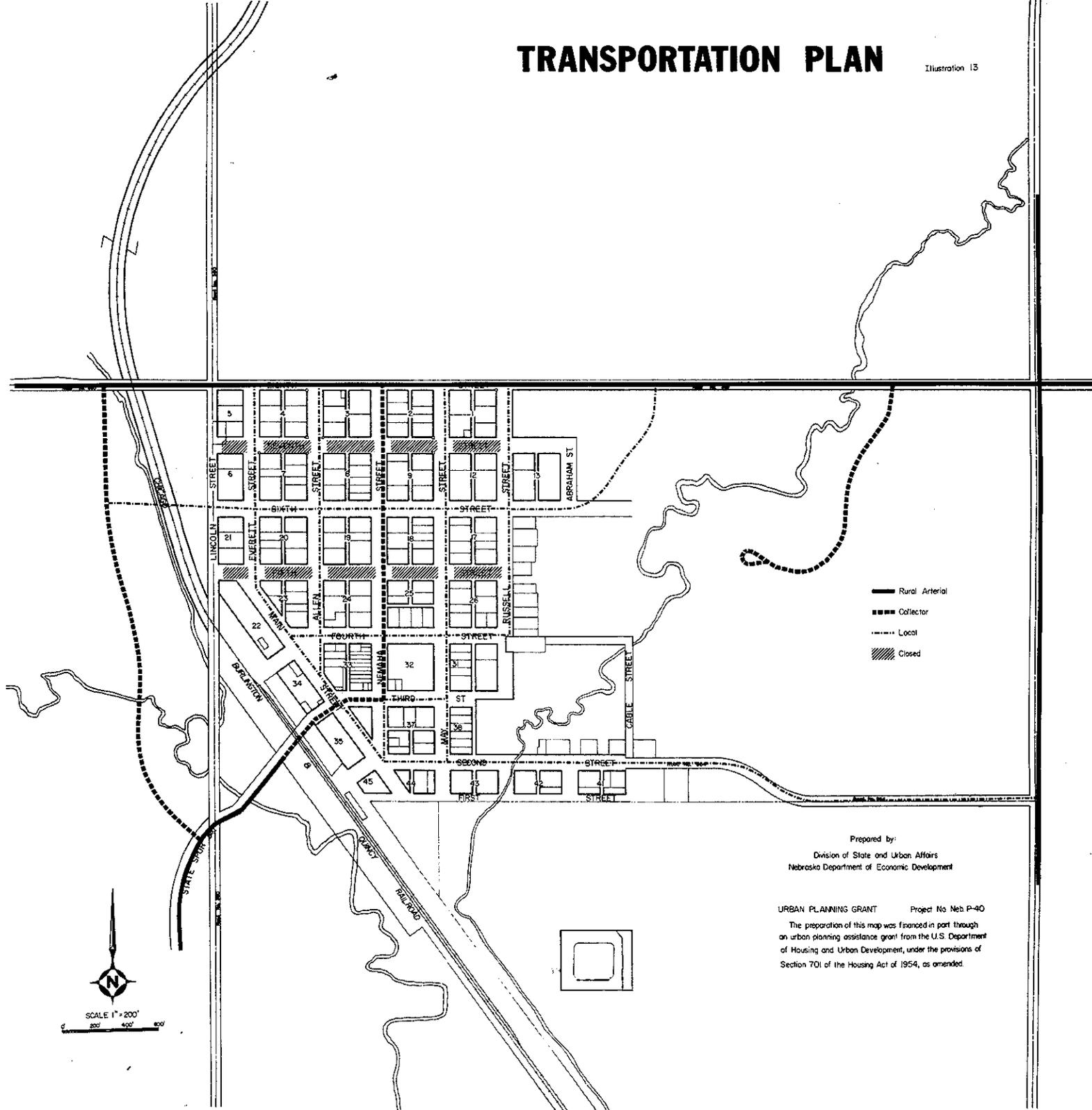
Problems of the Street System

The following is a summary of problems existing in the street system:

1. Majority of the streets are unpaved and in bad condition. These streets create such problems as dust and muddy conditions after heavy rain.
2. The lack of street continuity in some parts of the Village because of closed streets.
3. Too much land in the community is devoted to street use due to grid-iron layout and short blocks. This contributed to high maintenance cost.
4. Some sidewalks are in poor condition, and many streets do not have sidewalks.
5. Alleys in some cases are unbuilt and unsightly. Most of the alleys could be vacated to the owners of the adjoining property who should be responsible for cleaning and maintaining.
6. Many streets are hazardous in winter due to inadequate storm water drainage, and grading conditions resulting in an accumulation of ice on curbs, turn-arounds and intersections.
7. Inadequate traffic signs to effectively control the traffic.

TRANSPORTATION PLAN

Illustration 13



Prepared by:
Division of State and Urban Affairs
Nebraska Department of Economic Development

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Transportation Plan

A plan to provide traffic service on a specified system of streets is shown on Illustration 13 entitled Transportation Plan. The objectives of the plan are to move traffic safely with a minimum delay; to provide optimum service to all areas in the Village and all major traffic generators; to eliminate street discontinuity; to reduce excess streets; and to provide a better connection with the regional highway network.

The plan proposed that county road 395 and State spur 341 be designated as rural arterials. It is recommended that these arterials be improved, if necessary, to the standards suggested in this section.

Nemaha Street, the major connection between the county road and the State spur, is designated as a collector street. A second collector street is planned in the Firth Lake recreation area. This will be the major road that serves the recreation area. An industrial collector, which will be used as a by-pass for trucks, and also as a distributor and collector of goods in the industrial and business areas, is designated in the proposed industrial area. It is also recommended that all these collector streets meet the suggested standards.

Both Fifth and Seventh Streets will be closed to the public. The purpose of this is to eliminate excess streets and yet will not cause any circulation problems and inconvenience to the people living in the area. These closed rights-of-way should be maintained by the Village as green areas and landscaped with flowers and shrubs. Driveways will be provided for the ingress and egress of the residents, and the fire trucks in case of emergency.

All designated local streets, as shown in the Illustration, should conform with the suggested standards.

Street Standards

Table 18 shows the recommended standards of right-of-way, number of lanes, surface width, speed and parking.

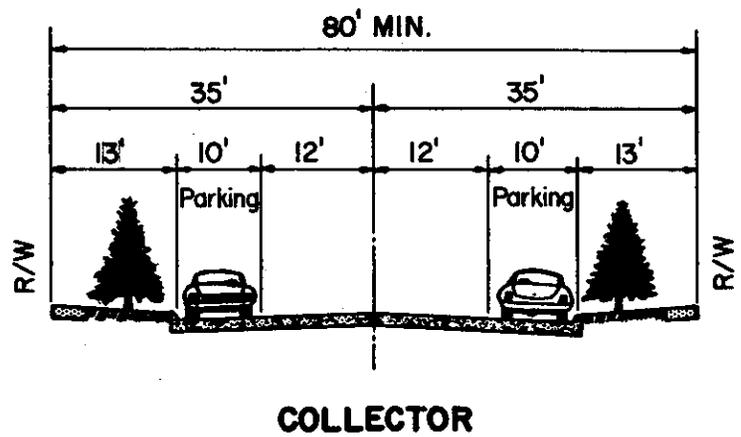
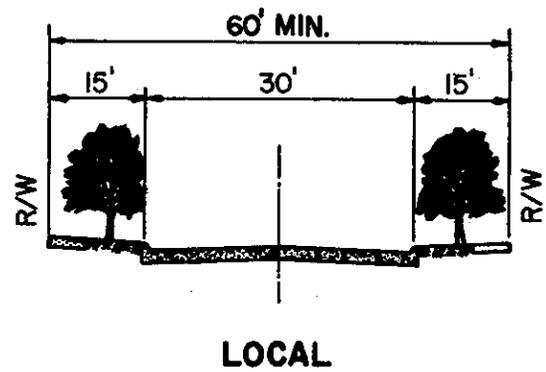
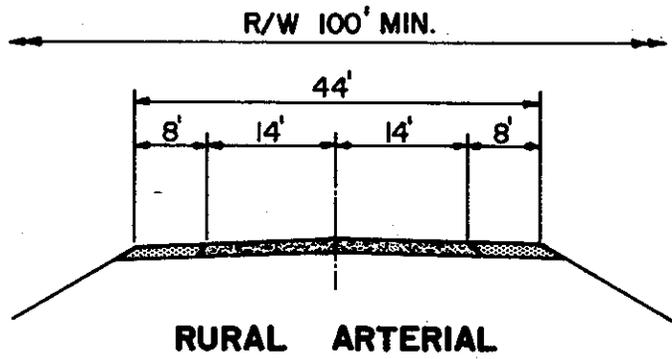
Rural Arterial - The rural arterial standard is one designed for county rural roads which can be upgraded later to urban arterial standard. This type of road should have a minimum right-of-way of 100 feet, no parking on both sides, and a maximum speed of 35 miles per hour in corporate limits.

Collector - The collector streets are designed to permit parking on both sides and to have a maximum speed of 30 miles per hour.

Table 18
STREET STANDARDS

<u>Type of Streets</u>	<u>Row Width</u>	<u>No. of Lanes</u>	<u>Pavement Width</u>	<u>Speed</u>	<u>Parking</u>
Rural Arterial	100	2	28	35 (corporate limits) 65 (outside corporate limits)	No
Collector	80	2	44	30	Yes
Local	60	2	30	25	Intermittent

STREET STANDARDS



The parking spaces on both sides can be changed into two additional lanes when the traffic volume increases in the future.

Local - The local street standard is for a 60-foot right-of-way, 30 feet pavement width, and intermittent parking. Long term parking is discouraged.

Recommendations

A. The biggest problem of existing streets in the Village is inadequate paving. It is recommended that all streets be paved with curb and gutter according to the schedule shown on Illustration 14 entitled Street Paving Schedule.

1. Fourth and Sixth Streets and road 395 from Russell Street to the intersection of the road going into the recreation area be properly improved and paved in 1969-1971 period. A new road extending east of 6th street be constructed and paved in the same period. These improvements will give a better road service to the downtown and the planned recreation area, which will attract many tourists from the nearby areas.
2. Everett and Main Streets should be paved in the 1971-1973 period. The collector street that serves the recreation area, and the unpaved sections of road 395 between

U.S. #77 and Nebraska #43 are scheduled to be paved at the same period.

3. Allen, May, Russell and Second Streets, and sections of Third and Nemaha Streets from Nemaha to May, and Second to Third respectively be improved and paved in 1973-1975 period.
4. A new industrial collector street and a local street extending west of Sixth Street be built in 1975-1977 period, or at any time when there are industrial prospects who would be willing to locate their plants in this industrial area.

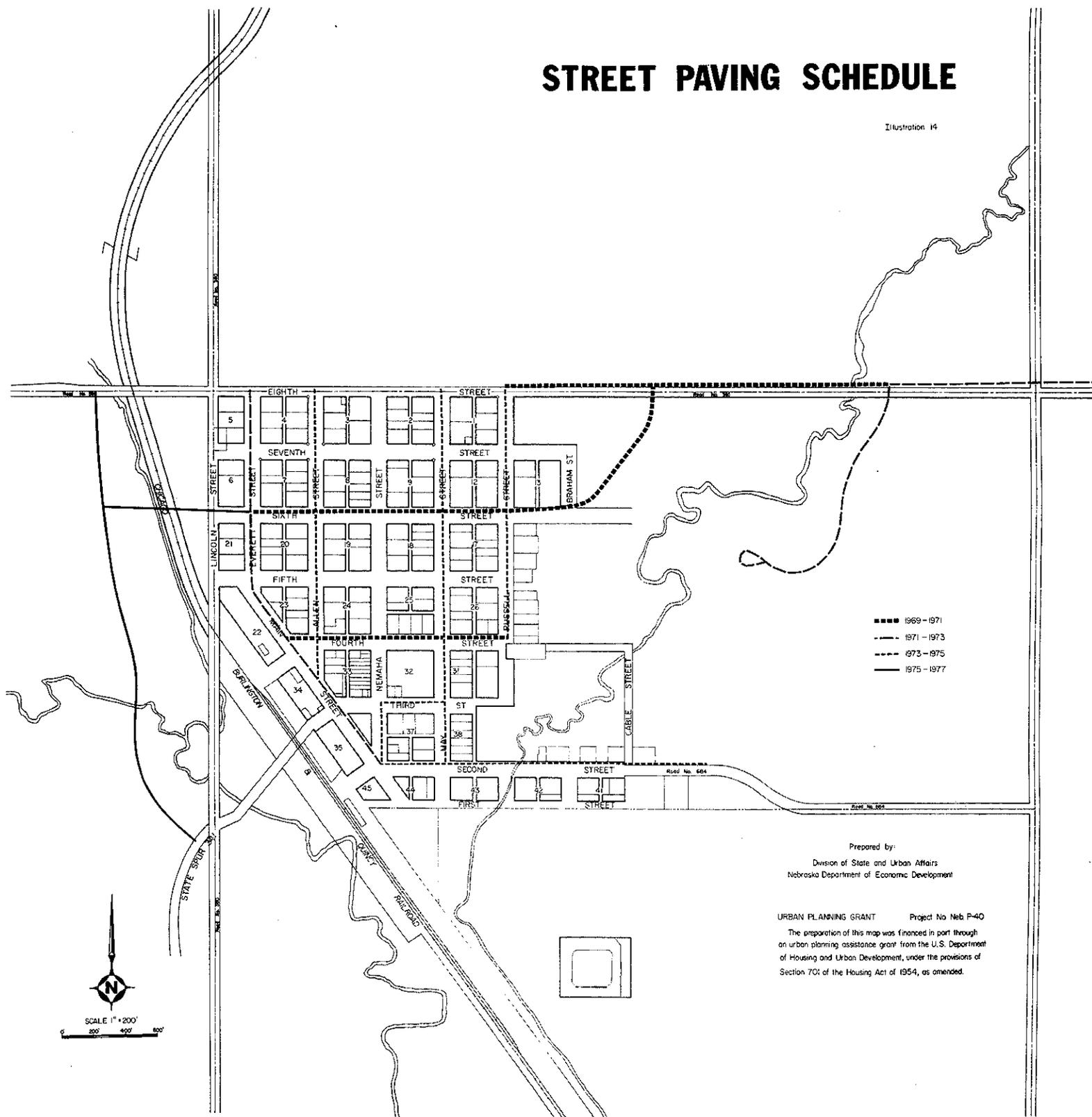
Detail financial program of these improvements will be discussed in the Capital Improvement Program. Although Federal and State funds will be available for some of the improvements, majority of the street improvement will have to be financed locally by special assessment.

B. Stop signs should be installed on all cross streets on road 395, and yield signs on local streets crossing the collector streets.

C. In areas that will be developed and become part of the Village, dedication of rights-of-way for streets, and street paving with curb and gutter will be required before the approval of subdivision.

STREET PAVING SCHEDULE

Illustration 14



- 1969 - 1971
- 1971 - 1973
- - 1973 - 1975
- 1975 - 1977

Prepared by:
 Division of State and Urban Affairs
 Nebraska Department of Economic Development

URBAN PLANNING GRANT Project No. Neb P-40

The preparation of this map was financed in part through an urban planning assistance grant from the U.S. Department of Housing and Urban Development, under the provisions of Section 701 of the Housing Act of 1954, as amended.



**COMMUNITY
FACILITIES PLAN**

COMMUNITY FACILITIES PLAN

The community facilities of any community are often indicative of its general economic health and vigor. The facilities of a community provided for its citizens play an important role in the progressive growth and sustained economic well-being which is necessary to the community. Not only are such facilities as parks and recreational areas, schools, public buildings, and public utilities vital to the existing residents, but prospective industry wishing to locate in the area place high priority on such services before making their final decision. Illustration 15 shows the location of all the existing community facilities in the Village.

PARKS AND RECREATION

Existing Parks and Recreation Facilities

Community Park - The park is located at Nemaha and Third Streets east of the Central Business District, and has an area of approximately 2.1 acres. It is the only major park in the community. Its recreation facilities include sand box, benches, six picnic tables, drinking fountain, two swing sets, one slide, one shelter house, and a platform. It is a very nicely wooded area, and is widely used by the people in the Village.

Ball Park - This is a lighted athletic field located at the southern part of the Village with an area of about 3.0 acres. It is equipped with baseball diamond and bleachers. The park can be used for baseball, softball, touch football and volley ball activities.

Playground - The children's playground is located at the Firth Grade School, and is about 2.3 acres. It is designed for the school children and is not intended nor adequate for the whole community.

Other Recreation Facilities - Since limited recreation facilities are available, some people have taken advantage of facilities outside the community, such as the Wagon Train Lake in Hickman, movie theaters, and golf courses in Lincoln and Beatrice, which are within easy driving distance.

Park and Recreation Standards

The following park and recreation standards are designed for the needs of the Village. These standards are derived from the National Standards, and the standards recommended by the Nebraska Game, Forestation and Park Commission:

1. Recreation Land Needs...2.5 acres per 100 persons.

COMMUNITY FACILITIES PLAN

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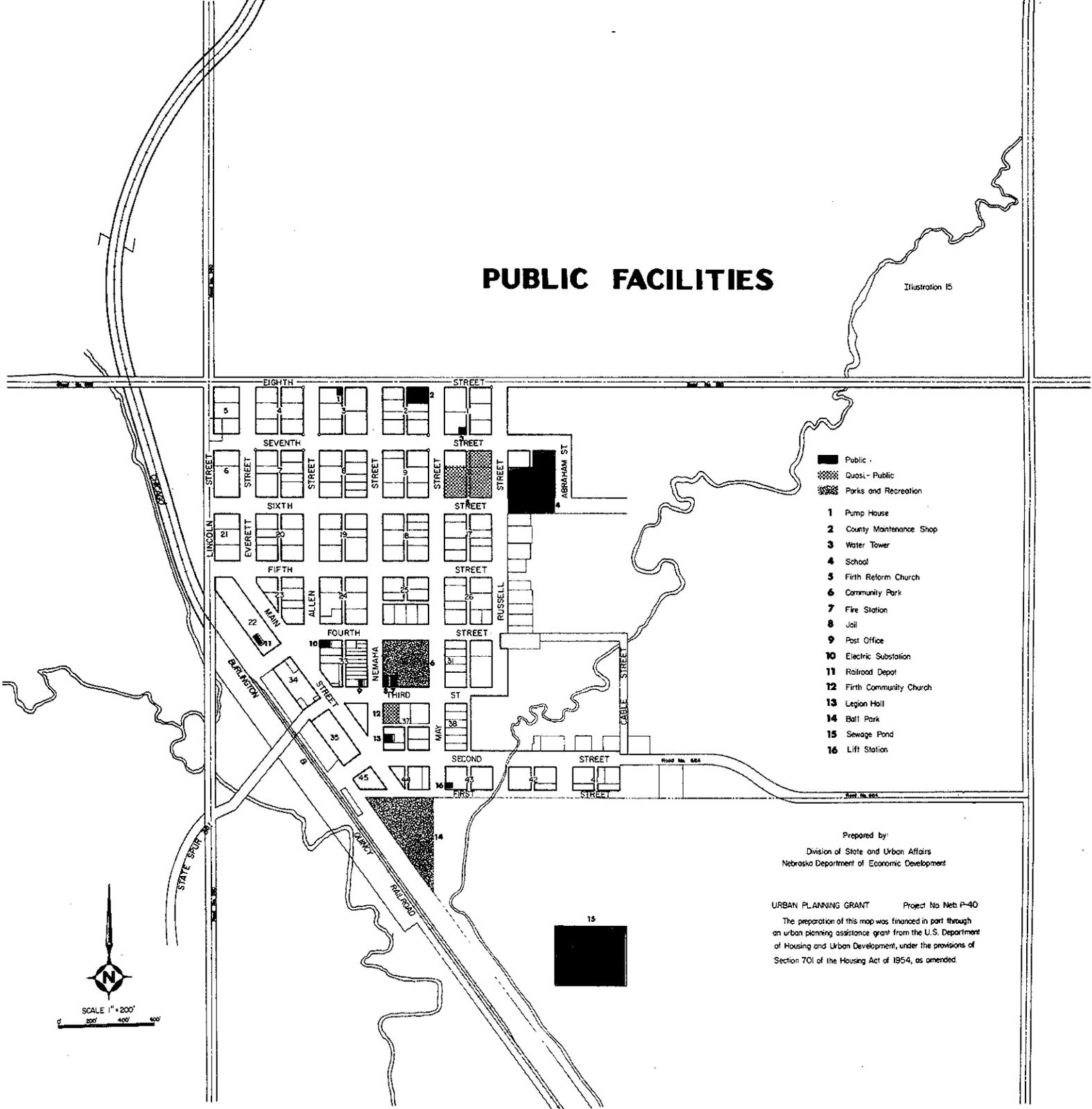
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PUBLIC FACILITIES

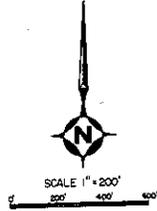
Illustration 15



- Public
- Quasi-Public
- Parks and Recreation
- 1 Pump House
- 2 County Maintenance Shop
- 3 Water Tower
- 4 School
- 5 Fifth Reform Church
- 6 Community Park
- 7 Fire Station
- 8 Jail
- 9 Post Office
- 10 Electric Substation
- 11 Railroad Depot
- 12 Fifth Community Church
- 13 Legion Hall
- 14 Ball Park
- 15 Sewage Pond
- 16 Lift Station

Prepared by:
 Division of State and Urban Affairs
 Nebraska Department of Economic Development

URBAN PLANNING GRANT Project No. Neb-P-40
 The preparation of this map was financed in part through an urban planning assistance grant from the U.S. Department of Housing and Urban Development, under the provisions of Section 701 of the Housing Act of 1954, as amended.



2. Playlots...These are the equivalent of the backyards of homes in sparsely settled residential districts. The size of each lot may range from 2500 to 5000 square feet in area. The playlot is designed for pre-school children, and should have low swings, slides, sand box, jungle gyms, and space for running and circle games. Passive recreation is also provided for adults while they watch their children.
3. Neighborhood Playground...It is designed for children whose age ranges from 6 to 14 years, and is intended as the recreation center of the neighborhood, and is usually within one-quarter mile walking distance of the dwellings it serves. The preferable location of a playground is adjacent to a community center or elementary school where supervised recreation is possible. The playground should have at least 4 acres, and an area for facilities similar to the playlots, and open space for informal play. Space is also needed for quiet activities such as crafts, dramatics, and story-telling.
4. Neighborhood Playfield...It is intended for both young people and adults, and to provide for a variety of recreational activities. The recreation facilities normally include baseball diamond, softball

diamond, comfort stations, volley ball court, and badminton court. It should have an area of at least 10 acres and a service radius of not more than three-fourths to one mile.

5. Community Park...The size of Firth is so small that it can be considered as one neighborhood; therefore, the community park is actually a neighborhood park. This is the place where active and passive recreation facilities for all ages are provided. There should be areas for picnicking, and other facilities listed under playlots and neighborhood playground.

Evaluation of Existing Parks and Recreation Facilities

The existing parks and recreation areas consist of Community Park (2.1 acres), Ball Park (3.0 acres) and the School Playground (2.3 acres), or a total of 7.4 acres. Using the standard of 2.5 acres per 100 population, Firth should have 8.25 acres for parks and recreation. By 1990 when the designed population is 469, the area requirement should be 11.7 acres, or 4.3 acres more than the existing areas.

The Village does not have playlots at the present time, and the school playground will be closed in the summer of 1969 due to relocation of schools to the new consolidated school building. This will further curtail the acreage of the park and recreation area in the Village.

The Ball Park is presently inadequate in area and facilities. It requires a variety of facilities like volley ball court, basketball court, badminton court, and comfort stations.

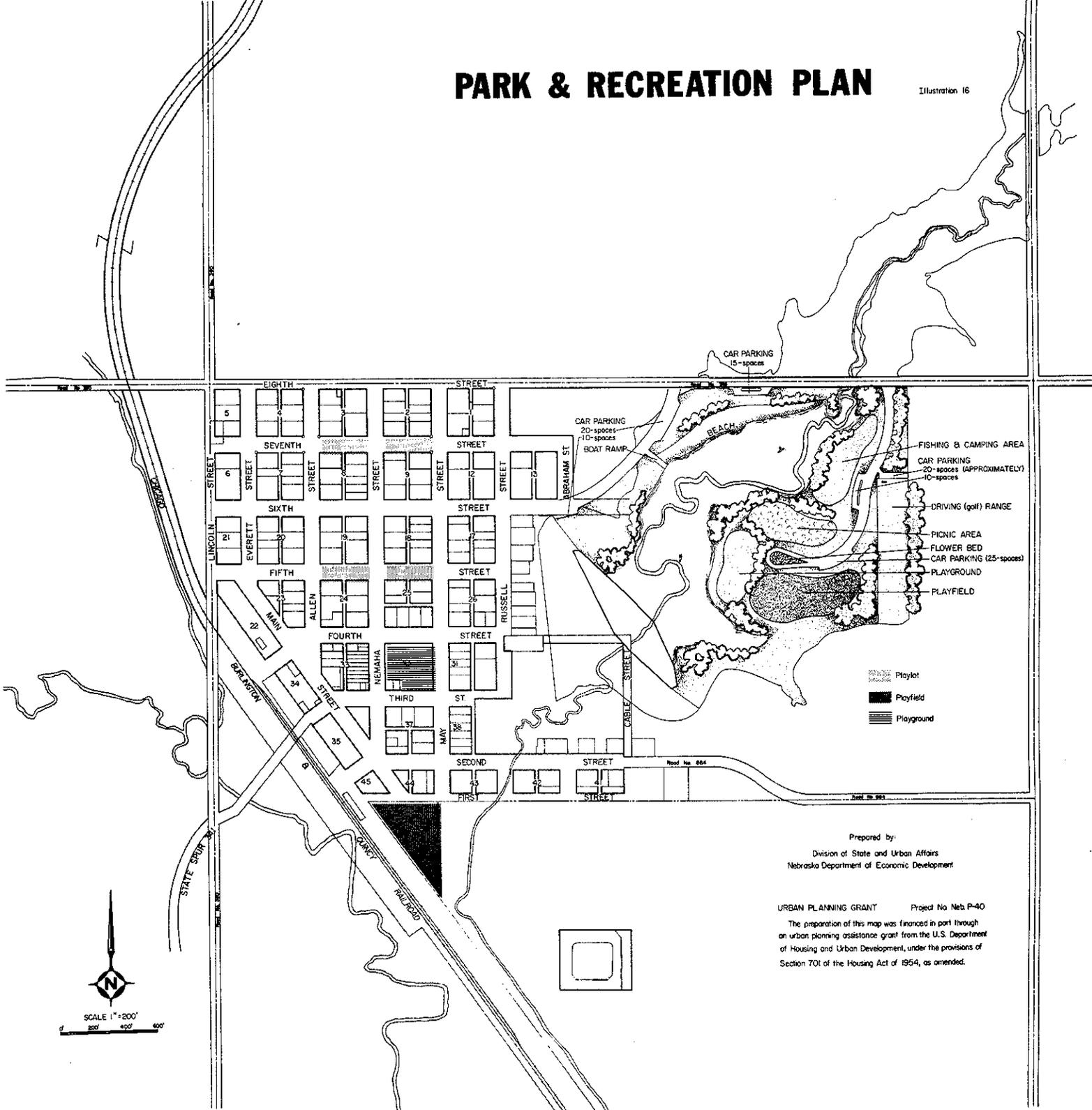
The Community Park is also inadequate in area and facilities. According to the proposed standards, it requires at least 2.9 additional acres, and needs additional facilities like jungle gyms, places for soccer, softball, tennis, handball, and volley ball.

Recommendations

1. All the existing parks and playgrounds should be properly maintained. This includes grass mowing, painting and repairing of play facilities and bleachers.
2. The closed street areas of Fifth and Seventh Streets, as proposed in the Transportation Plan, will be ideal locations for playlots. It is recommended that the closed streets at Seventh and Allan, Seventh and Nemaha, Fifth and Allen, Fifth and Nemaha, be designated as playlots and improved according to the recommended standards.
3. Designate the existing Community Park as the Neighborhood Playground, and improve the facilities according to the recommended standards. Since the park is located in an area where expansion of the present site is impossible, it is necessary that some additional acreage and facilities of a Neighborhood Playground be included in the Firth Lake Recreation Area which will be developed in the near future.
4. Designate the existing Ball Park as the Neighborhood Playfield, and improve according to the recommended standard. Since the future expansion of the Ball Park is hampered by the railroad track on the west and south, and the Nemaha River on the east, the Firth Lake Recreation Area should also include certain facilities which are lacking in this park.
5. Designate the Firth Lake Recreation Area as the Community Park. The new park, which will be developed after the river dam is built, will consist of 62 acres of land, and 25 acres of water. It will have two major recreation areas - the western shore will have a service road, a boat dock, a beach area, change houses, toilets, and water wells; the eastern shore will have a golf driving range, playground, volley and basketball courts, tennis court, picnic and fishing areas. One hundred parking spaces will be available at various places.

PARK & RECREATION PLAN

Illustration 16



Prepared by:
 Division of State and Urban Affairs
 Nebraska Department of Economic Development

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An application for the Land and Water Conservation Fund was submitted to the Nebraska Game Commission in September, 1968, for the development of Firth Lake Recreation Area. The Fund is composed of 50 per cent Federal Grant, 25 per cent State Grant and 25 per cent local fund. It was informed in November, 1968, that no fund was appropriated to the Village for fiscal year 1970 due to limited amount of the Fund. However, the approval of this application is anticipated for fiscal year 1971.

Illustration 16 entitled Park and Recreation Plan shows the proposed playlots, playfield, playground, neighborhood park, and the general layout of the new community park. The section of County road 395 east of Russell Street needs to be elevated, and a bridge be built. The Lancaster County Road Department has scheduled these improvements in 1969. If this project is successfully completed, the potential of attracting tourists and commuters will be greatly increased in the years to come.

SCHOOL FACILITIES

The grade school in the Village belongs to the Norris School District No. 160 which consists of grades 1 through 4 in Roca; grades 1 through 6 in Panama; Kindergarten through 6 in Firth; Kindergarten and grades 7 through 8 in Hickman; Kindergarten and grades 9 through 12 in Cortland. The District was accredited "A" by the State Board of Education on June 21, 1965.

"The District became effective in June, 1964, and it encompasses approximately 200 square miles with an assessed valuation of over \$12,600,000. Enrollment was 500 elementary, 141 junior high and 228 senior high students. Illustration 17 entitled School District shows the exact boundary of the school district.

A bond issue in the amount of \$1,990,000 was approved on April 18, 1967, to build a consolidated school plant which is located on the northeast corner of a 160 acre site formerly known as the Gertsch farm, about three miles northwest of Firth.

The Consolidated plan will consist of an Elementary School Building and a Junior-Senior High School Building. The Elementary School (K-6) will have two kindergartens and four classrooms per grade ultimately. Initial construction will omit a four classroom wing on this building which is to be constructed as the need or additional space arises. This building will accommodate 720 students initially and 800 ultimately.

The Junior-Senior High School is designed to offer ultimately a complete curriculum for grades 7 through 12, including academics, science, art, shop, vocational and physical education. The initial building is projected to handle 500 students with expansion capable of housing 1000.**

*Information from the office of Superintendent of Schools.

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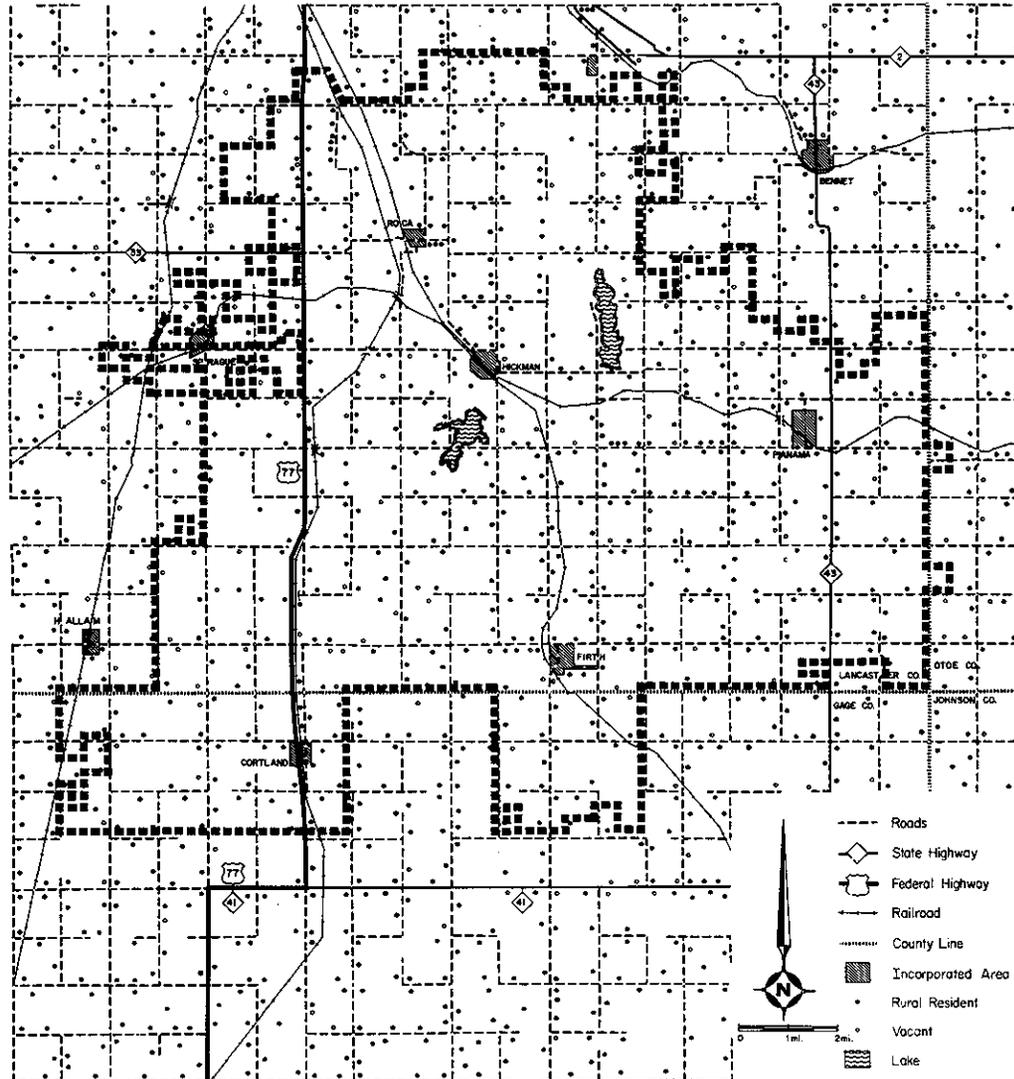
Prepared by:
Division of State and Urban Affairs
Nebraska Department of Economic Development

SCHOOL DISTRICT

Illustration 17

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The initial construction will be completed by September, 1969, and the five school buildings in Firth, Hickman, Roca, Panama, and Cortland will be closed. These new school buildings, when completed, will be quite adequate to serve the school children in Firth for the Planning Period.

PUBLIC BUILDINGS

Existing Public Buildings

City Hall - There is no City Hall in Firth. The Village Board has its regular meetings conducted in the Firth State Bank. The Planning Commission meetings and other public activities were usually held in the Legion Hall which is located at First and May Streets. The Legion Hall was built in 1903 and has a dimension of 35 feet by 50 feet. It has tables and chairs for public meetings, and a kitchenette at the rear to prepare coffee and refreshments for the social meetings. The building is in poor condition, and the heating and lighting fixtures are very much outdated.

Fire Hall - It is located at Third and Nemaha Streets, and has a dimension of 25 feet by 30 feet. The building was constructed in 1959, and is in very good condition. There are two fire trucks, 15 voluntary firemen in the Village and 15 rural area voluntary firemen. They have fire drills once or twice a year. Illustration 18 entitled Fire District shows

the area where the Firth voluntary fire department will respond in case of fire. The fire district encompasses an area of about 44 square miles.

Police Station - The Village of Firth does not have a police station. The Lancaster County sheriffs are responsible for the Village's law enforcement. The County sheriffs visit the Village once every day, and will respond to calls in case of emergency. The jail was built in 1910, and is located next to the fire hall. The jail facility is seldom used since most of the arrests are confined in the County Jail in Lincoln.

County Maintenance Shop - It is located at May Street and County road 395. This is the only County building in the Village, and it has a dimension of 25 feet by 35 feet. The building is in sound condition and is used for the storage of road maintenance equipment.

Post Office - The post office is located at Third and Nemaha Streets west of the bank. It was constructed in 1915, and was used as a drug store, tavern and bakery. In 1947, the building was converted into the present post office. It is a third class post office, and according to the postmaster, the present facility will not be adequate for the next 20 years. The following are the post office

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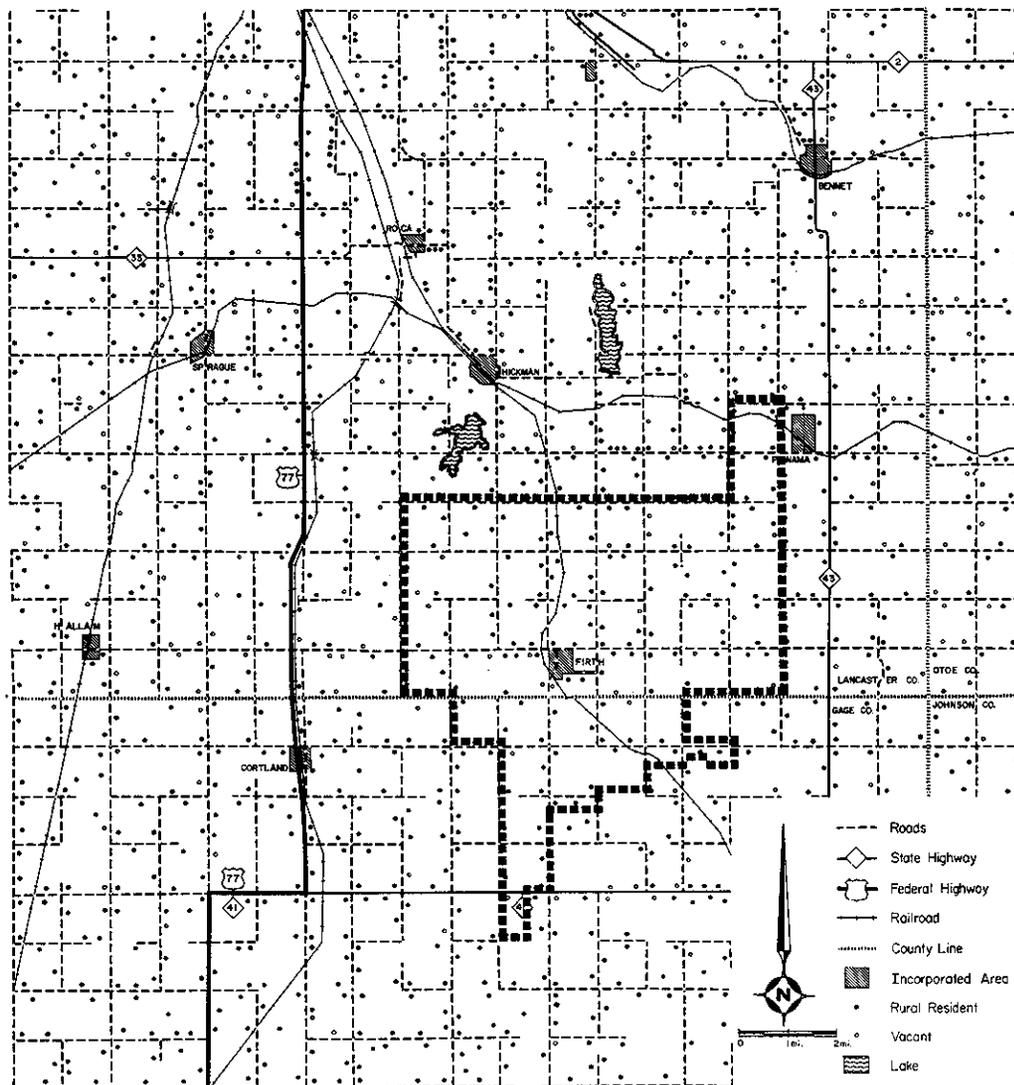
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FIRE DISTRICT

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receipts for the past five years:

Table 19

POST OFFICE RECEIPTS
Firth, Nebraska
1963 - 1967

<u>Year</u>	<u>Receipts</u>
1963	\$3233.00
1964	4734.00
1965	4792.00
1966	5007.30
1967	5213.40

The postal receipts have increased steadily for the past five years. This is a reflection of both postage increase and increase in postal activities.

Cemetery - The Firth Cemetery is located about half a mile south of the corporate limits at the Lancaster and Gage County Line. It has an area of approximately 10 acres, and is now about 90 per cent filled. The present site will not be adequate for the next 20 years, but there is room for expansion to the north and east.

Other Public Buildings - There are no medical, dental, or hospital facilities, city auditorium, or library in the community. The Nebraska Game and Parks Commission recommends that a public library be provided even though the size of a community is less than 500 people.

Recommendations

1. A Government Center, which will be a combination of City Hall, City Auditorium, library and police department, should be built as soon as financial condition of the Village permits. There are several methods of financing the City Hall and they should be investigated by the Planning Commission and the Village Board to see which method will suit the needs of the Village. The methods of financing are:

- A. The U.S. Department of Housing and Urban Development administers advances for public works planning and public facilities loans. Section 702, Public Law 560, provides that funds may be advanced to states, municipalities, and other non-federal public agencies to help finance the planning of public facilities, such as government centers and city halls. These advances are repaid without interest when construction begins or contracts are awarded.
- B. The U.S. Department of Housing and Urban Development also administers a program of loans for the construction of public facilities where financing is not available on any other reasonable basis. Interest rates are established at the time applications are accepted by the Department of Housing and Urban Development.

C. Another possible method of receiving federal assistance is if the government center is part of a planned urban renewal program or neighborhood development program. In such cases the financing of the governmental center might be assisted indirectly by the total financial plan of the overall program.

D. Lease-Purchase. A few cities, largely in California, have constructed a city hall through a lease-purchase agreement. A private party agrees to build the city hall at no initial cost to the city. The city in turn agrees to lease for a specific number of years. A specified yearly "rental" is agreed upon. At the end of the lease period, the city owns the property outright. Costa Mesa, California, was successful in financing its city hall in this manner. The lease-purchase plan has the main advantage of avoiding legal debt limits. The theory is simply that rent to fall due beyond the current rent period is not a debt. This method also may avoid a vote of the people to approve a general bond issue when state law requires a vote.

E. Revenue Bond Issue. Some states have authorized financing a city hall by revenue bonds. Where this device is used, state statutes usually provide for the creation of a public building authority. The authority is given the power to construct public buildings and issue revenue bonds to finance said construction. In turn, the city agrees to pay rent to the authority until the bonds are retired. In practice, this is similar to the lease-purchase plan except that a public body is created to raise the money.

F. Internal Financing. A few cities have been able to finance the city hall by borrowing from city trust funds such as cemetery endowments. Bountiful, Utah, borrowed \$90,000 from trust funds and pledged the revenue from a sales tax increase to repay the loan.

2. A minimum of one regular peace officer with provision for relief for vacation and days off should be provided for the Village. Any person vested with the authority and responsibility of a peace officer should be morally, mentally, and physically acceptable to assume the responsibilities, and should have at least a basic knowledge of the learnings and skills for adequate performance of all assigned responsibilities.

3. The fire protection standard established by the State Fire Marshal shall be used as a guide for the Village. The requirements are as follows:

A. Required Class of Fire Rating:
Class 8

B. Training

The fire chief of the Village must certify that the community's fire department (volunteer or regular) meets all of the following specific requirements:

1. At least 90 per cent of all personnel attend and take active part in training classes which must be held at least once a month.
2. Each member of the fire department must have a certificate indicating no less than a fifteen hour Basic Firemanship course within one year after joining the department.
3. Officers in each department must have a certificate indicating no less than an eighteen hour Fire Department Administration course within one year after being elected to any office of your Fire Department.

4. Fire Department shall also conduct a continuous Fire Prevention Program.

5. At least four full-time or volunteer members of each department must attend annual State Fire School each year.

6. At least three members of each department must attend all regular scheduled area mutual aid meetings and schools.

C. Fire Prevention Program

The Fire Chief of the Village must certify in writing that the department has launched a Fire Prevention Program which includes at least the following elements:

1. Removal of dry vegetation and other flammable material from hazardous areas.
2. Have an annual inspection of business buildings by the fire department.
3. Attempt to condemn and remove all dilapidated structures and other hazards through the assistance provided by the State Fire Marshal or through other acceptable methods.

4. Establish a Junior Fire Patrol.

PUBLIC UTILITIES

Water System - The water supply system in Firth consists of two wells with an intake structure and a service pump, a distribution system, and an elevated storage tank. The system has 4809 feet of 2-inch pipes, 5545.9 feet of 4-inch pipes, 1408.3 feet of 6-inch pipes, and 550 feet of 3/4-inch pipes which are all cast iron. There are 14 valves ranging from 2 inches to 6 inches, and 17 fire hydrants. The water storage tank was built in August, 1947, with a capacity of 40,000 gallons.

A water analysis was made by the Nebraska Health Department in February, 1966. The analysis indicates that the quality of water is good and suitable for domestic use without treatment. The analysis also shows that the hardness is above average, and the amount of fluoride is below that recommended to reduce dental cavities.

Table 20

WATER ANALYSIS

<u>Item</u>	<u>Well No. 1</u>
pH	7.5
Total Solids	800
Total Iron	0.0
Manganese	0.0
Fluoride	0.4
Alkalinity	340
Hardness	480
Calcium	131
Magnesium	37
Nitrate	33.7
Chloride	82
Sulfates	15
Sodium	87
Potassium	5

(All units in milligrams per liter except pH)

Source: Nebraska Department of Health

The water system is adequate for the present population, but several deficiencies should be corrected:

1. There are two dead ends in the system, one at First and Nemaha, the other at Fourth and Nemaha. Dead ends often cause taste and odor, and accumulate rust which also causes stains and discoloration of clothing, fixtures and plumbing.

4. Establish a Junior Fire Patrol.

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1. There are two dead ends in the system, one at First and Nemaha, the other at Fourth and Nemaha. Dead ends often cause taste and odor, and accumulate rust which also causes stains and discoloration of clothing, fixtures and plumbing.

2. The present capacity of the water tower is 40,000 gallons. If the average water consumption of 150 gallons per person per day is used, a 50,000 gallon tank is needed today. If the designed population figure of 469 is used, a 70,000 gallon tank will be needed by 1990.
3. Approximately 88 per cent of the water mains are less than 6 inches, and according to modern engineering practice, no water mains should be less than 6 inches since small pipes are inefficient and uneconomical.

Recommendations

1. Eliminate dead ends in the system by closing loops with mains as soon as funds are available.
2. In order to insure a continuation of water supply in the community, at least one of the wells should be fitted with a pulley for emergency use.
3. Provide elevated storage facilities totaling 50,000 gallons by 1970, and 70,000 gallons by 1990.

4. Extend 6-inch water mains into the anticipated growth area to the north and the industrial area west of the Village when they are needed.
5. Add fire hydrants to provide adequate coverage for new areas which will be developed in the near future.

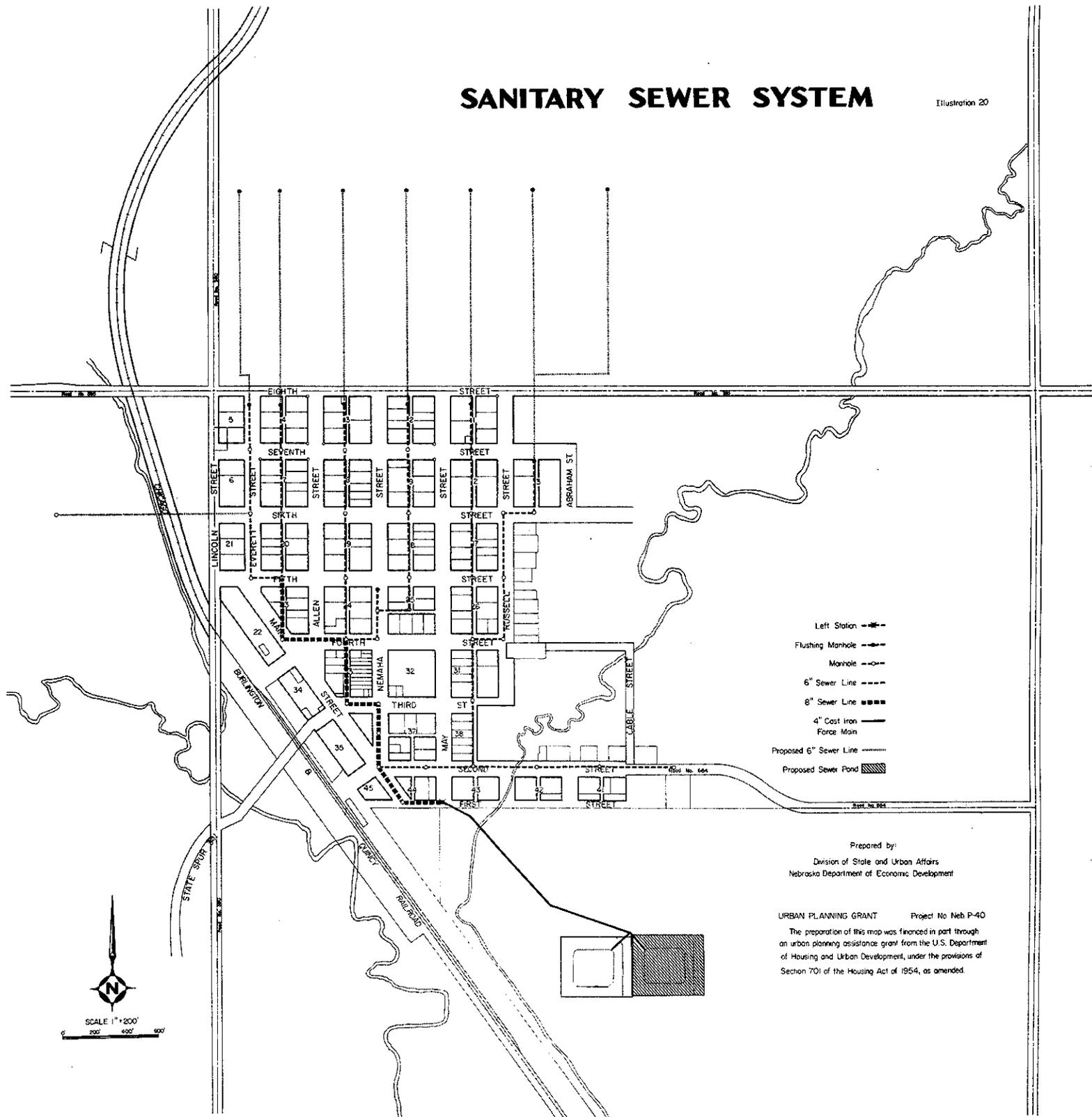
Illustration 19 entitled Water Distribution System shows the existing water distribution facilities and the proposed improvements.

Sanitary Sewer System - The Sanitary Sewer System is composed of 12,100 feet of 6-inch and 1800 feet of 8-inch sewer mains, 7 flushing manholes, 33 manholes, a lift station, 1300 feet of forced main, and a sewer lagoon. All the system utilizes gravity flow for transmission except at the southern part of the Village where a lift station is used to pump the sewage into the lagoon. The development within the corporate limits is at present adequately served by the system, but the sewer lagoon is at its full capacity. It is recommended that the present lagoon be expanded and that the anticipated growth area be properly installed with sewer mains.

Illustration 20 entitled Sanitary Sewer System shows the size and location of the sewer main, and the proposed improvements.

SANITARY SEWER SYSTEM

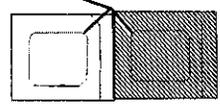
Illustration 20



- Left Station ———
- Flushing Manhole ———
- Manhole ———
- 6" Sewer Line ———
- 8" Sewer Line ———
- 4" Cast Iron Force Main ———
- Proposed 6" Sewer Line ———
- Proposed Sewer Pond [Hatched Box]

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Solid Waste Disposal - The Village has a sanitary land fill located northwest of the corporate limits which is quite adequate for the Planning Period. The Nebraska Health Department recommends that each city and village within the State should have a properly designed sanitary landfill site or an incinerator, which may be owned by the municipality or a private individual, or which may be used or operated in cooperation with another municipality or a county. The disposal site shall be properly supervised so that dumping will be controlled, filling and burial in a landfill operation will be done promptly and efficiently, and refuse will not be scattered over the site or onto adjacent property.

An access road within the disposal site shall be of all-weather construction. Reasonable measures shall be taken to control insects and rodents at the site. It is recommended that the existing sanitary land fill be conformed to the criteria suggested by the State Health Department.

Storm Drainage System - The Village has a very limited storm drainage system to provide for surface water runoff. The system consists of only open ditches which run from north to south along Nemaha Street. Because of large lots and the rural character of the Village, storm water run-off is not a big problem. As new neighborhoods are developed, it is imperative that drainage be carefully considered when new subdivisions

are added to the Village. Subdivisions should not be approved in areas that cannot be properly drained and that are not free from flooding. The existing system is shown on Illustration 21 entitled Storm Drainage System.

Electrical Power - The electrical power in the Village is supplied by Consumers Public Power District with district office located at Beatrice. The district manager reported that the kilowatt hours sold during the past five years have increased 38 per cent. The following are the kilowatt hour figures sold to the people of Firth.

Table 21

ELECTRICITY CONSUMPTION

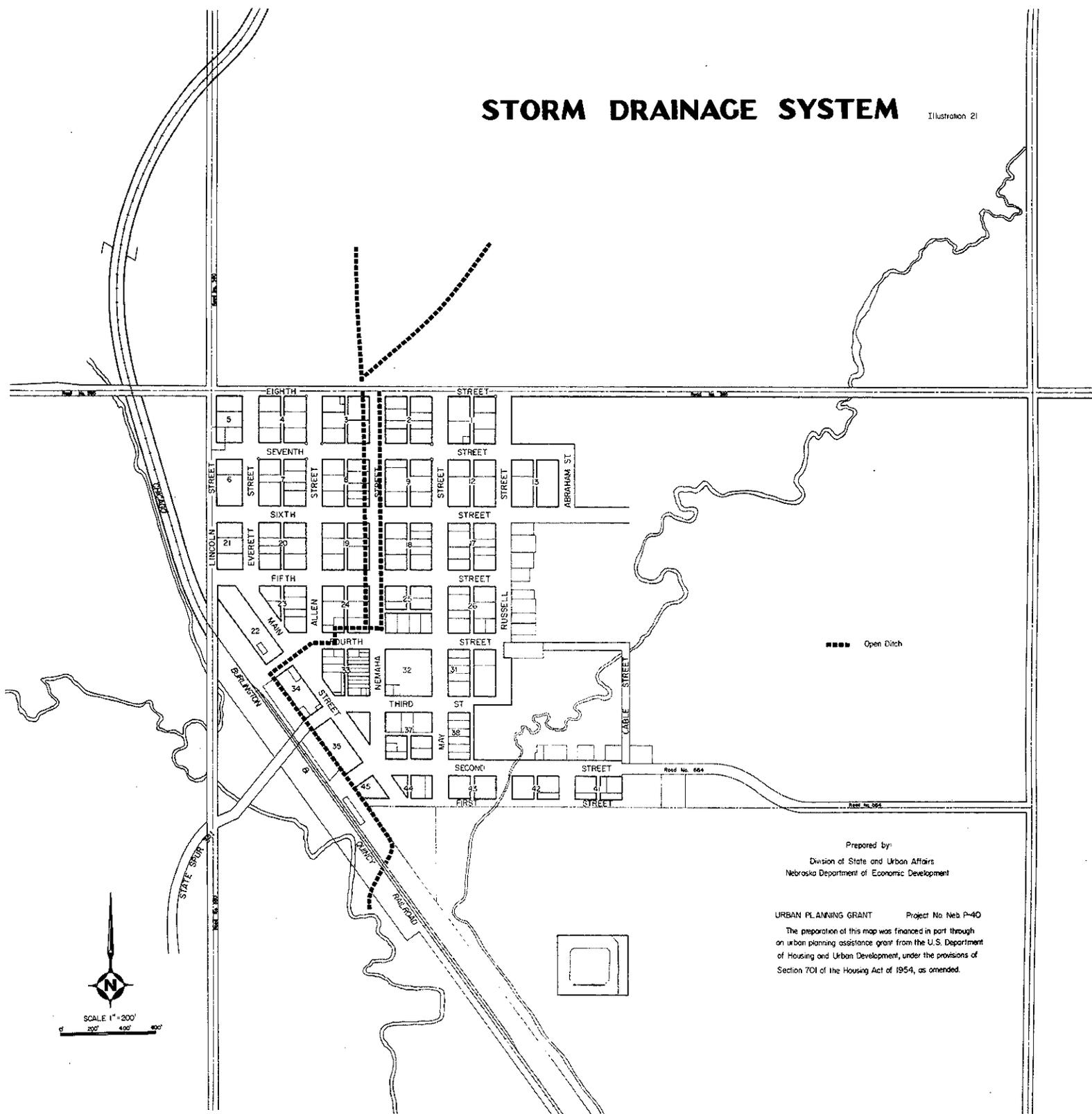
<u>Year</u>	<u>Consumption</u>
1963	856,048 KWH
1964	932,628 KWH
1965	989,250 KWH
1966	1,133,499 KWH
1967	1,184,692 KWH

Source: Consumers Public Power District, District Office, Beatrice, Nebraska.

Other Utilities - Anticipated community growth and development will require continual enlargement and modification of electric power, telephone, and gas system. The comprehensive development plan will be a useful guide for the private utilities companies to plan for the needs in Firth.

STORM DRAINAGE SYSTEM

Illustration 21

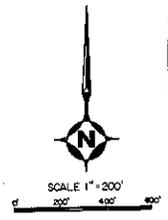


Open Ditch

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**CENTRAL BUSINESS
DISTRICT PLAN**

CENTRAL BUSINESS DISTRICT

The Central Business District (CBD) is the heart of a community. It is the commercial, social, cultural and recreational center, and is the place where most people go to work. The CBD of many cities are facing the problem of deterioration because of the competition from outlying shopping centers. Automobile is the major means of transportation by most Americans today. And the CBD usually cannot provide enough parking spaces, and traffic circulation is often poor. It is quite evident that the CBD cannot compete with the shopping centers where there are ample off-street parking spaces, well landscaped and convenient traffic circulation.

The Central Business District of Firth consists of Block Numbers 33, 34 and a triangular block where the lumber yard is. It does not have the problems mentioned because the community is rather small. The traffic and parking problems are not evident, and there are no shopping centers to compete with. The greatest problem, however, is the deterioration of the commercial structures and the junk behind the business buildings. As a matter of fact, the CBD is the only major area in the whole community that has a substandard environment.

Existing Land Use

In order to analyze the existing conditions of the Central Business District, it is important to make an inventory of its land uses. Illustration 22 represents the existing

land use in the downtown area as of March, 1969. Land uses include residential, retail, service, public, warehouse and vacant lots. The survey showed a mixed land use pattern, vacant lots and inefficient use of spaces. The irregular block sizes and shapes of the CBD contribute in part to the inefficient use of spaces.

A total of 50 parking spaces are available in the downtown area at the present. A survey in March, 1969, also showed that during a regular business weekday, the parking spaces were not fully occupied. This is an indication that parking has not been a problem.

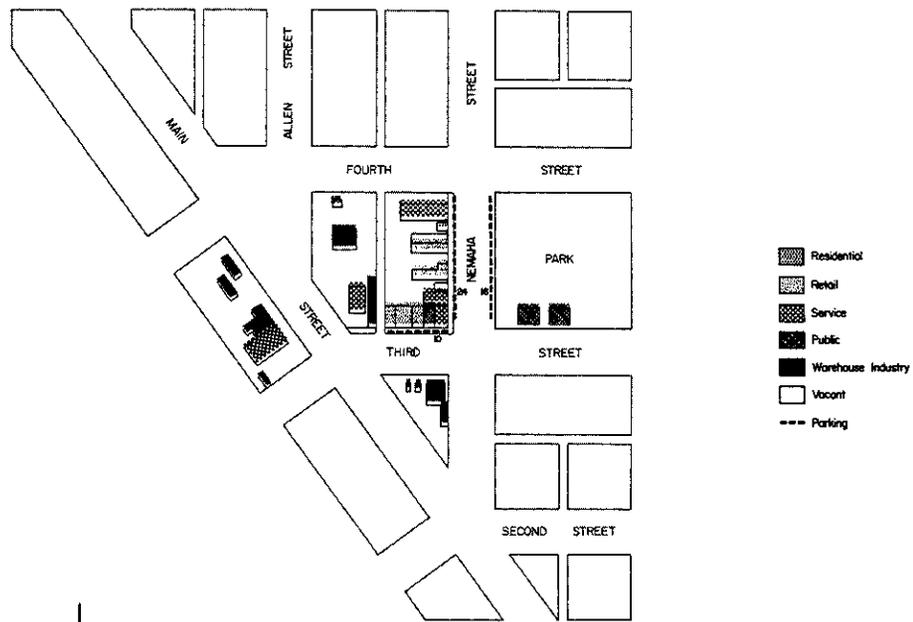
Condition of Structures

A building to building survey was also made on the structural condition in the CBD, and the result was summarized in Illustration 23. It reveals that 43 per cent of the buildings are in sound condition, 30 per cent deteriorated, and 27 per cent dilapidated. In other words, 57 per cent, or more than half of the structures, are substandard. The junk at the back of the commercial buildings makes the downtown area appear even more unsightly.

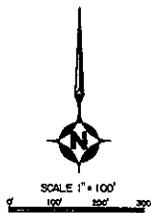
The other concern about the Firth downtown is the limited area for future growth. The location of downtown is such that the east is bounded by a park, the north by residential area, the west and south by the railroad. The possible area for expansion is the southwest where there is a vacant area. The dilemma of having limited area for expansion is offset somewhat by the vacant areas within the commercial blocks. In the Land Use Plan,

EXISTING LAND USE CENTRAL BUSINESS DISTRICT

Illustration 22



- Residential
- Retail
- Service
- Public
- Warehouse Industry
- Vacant
- Parking



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Nebraska Department of Economic Development

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it was estimated that 1.4 acres of additional land will be needed by 1990, and the vacant land in the commercial blocks is adequate to take care of the projected needs.

Central Business District Improvement Plan

The main objectives of the proposed improvement plan are:

1. To provide additional parking spaces.
2. To improve traffic circulation.
3. To eliminate dilapidated buildings.
4. To upgrade deteriorated buildings.
5. To improve the CBD image.
6. To provide adequate commercial space for future needed businesses.
7. To improve the CBD within the financial ability of the Village.

Parking Spaces - As the population of the community grows, business activities will increase accordingly to satisfy the needs of the populace. Enough parking space is one of the most important factors in a successful downtown. The improvement plan retains the diagonal parking spaces on the commercial block west of Nemaha Street and north of Third Street. The parallel parking west of the park will be changed to diagonal parking so that additional spaces will be secured.

Off-street parkings are proposed on west and southwest of the main commercial block and also behind the commercial buildings. The proposed parking lots behind the business buildings can clean up the junks in that area and serve as the loading and unloading areas for some businesses. Sixty-two parking spaces are added as a result of this proposal.

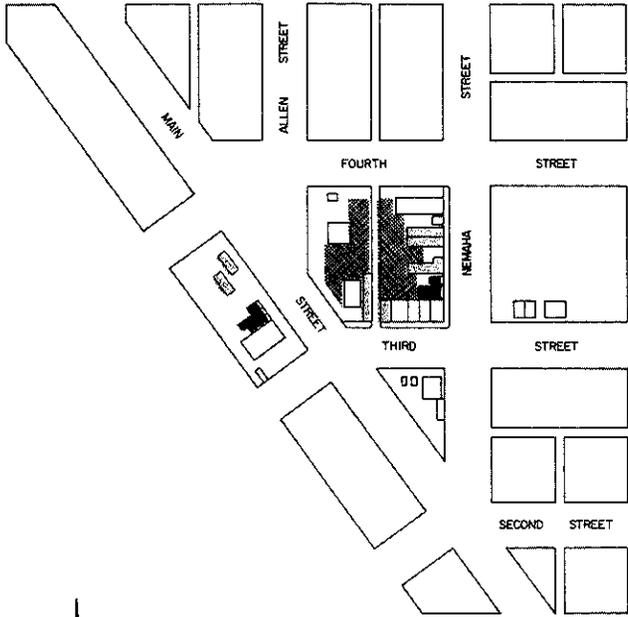
Traffic and Circulation - All streets around the CBD will be improved and paved according to the Transportation Plan. This will insure easy access to the CBD. The parking spaces on Nemaha Street are curvilinear to slow down the traffic in the block. A 5-foot median is placed on Third Street south of the commercial block to discourage U-turns. Sidewalks will be constructed on all business blocks for the convenience and safety of the pedestrians.

Buildings - The two buildings north of the bank and the structure north of the Co-op Building will be replaced by new commercial structures since they are considered to be dilapidated. The residential house south of the attorneys' office will also be replaced. Three completely new buildings are proposed, one north of the cafe, one north of the filling station, and one south of the lumber yard. These buildings are all for the expansion of existing businesses. The deteriorated buildings will be improved and upgraded accordingly.

Beautification - A small (0.4 acre) park is proposed at southwest of the lumber yard. It will be properly landscaped and planted with trees, shrubs and flowers. The park will be served as a buffer between the grain elevator and the business section, and a place for passive recreation. This park should be able to improve the CBD image greatly.

CONDITION OF STRUCTURES CENTRAL BUSINESS DISTRICT

Illustration 23



- Sound
- Deteriorated
- Dilapidated
- Clean-up Area



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All the CBD buildings will have a complete facelifting treatment. The rendering on the following page will show the end result of such improvement. A fountain will be built in front of the bank building which will be the focal point of the CBD area. Landscaping has been proposed in most parts of the CBD especially on the north and west of the main commercial block. This proposed improvement should give the customers a pleasing atmosphere comparable to a typical shopping center.

The Central Business District Improvement Plan as shown in Illustration 24, will be carried out in several phases so that the financial burden can be spread out in several years. The cost estimates and methods of financing will be outlined in detail in the Capital Improvements Program.

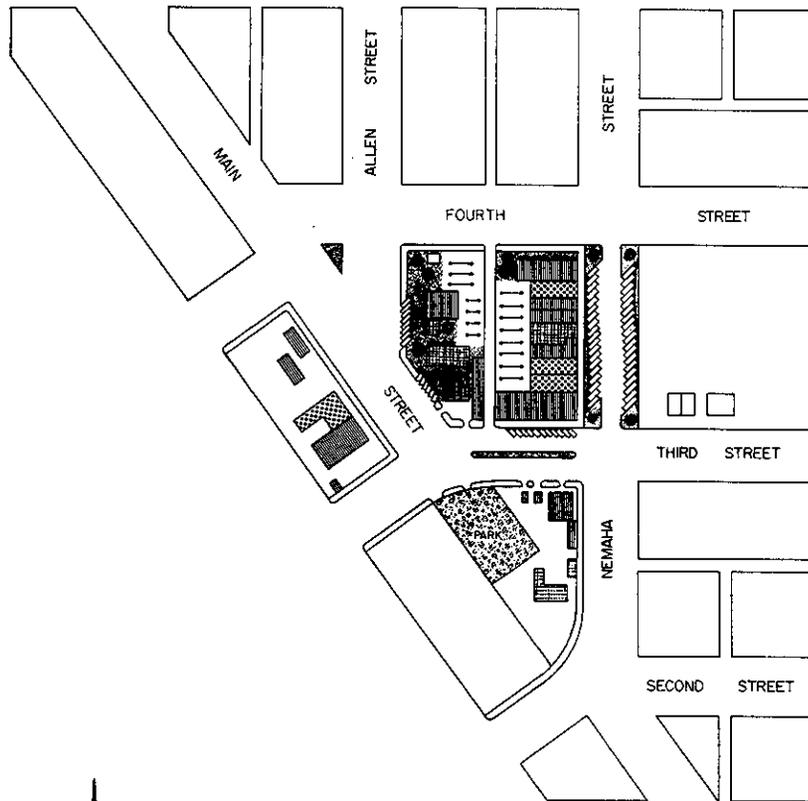
Long Range CBD Improvement Plan

As mentioned earlier, the existing downtown condition is rather poor, and there is limited area for expansion. Even though the proposed CBD improvement plan will be quite adequate for the next 20 years, for the long range purpose (50 to 100 years), a new site for downtown should be considered. A site north of Road 395 was suggested to the Village Board and the Planning Commission. This site is more centrally located with respect to the future growth of the community, and it can be designed in such a way that it will have ample off-street parking, drive-in banking facilities, pedestrian mall, and many other

desirable features of a modern day shopping center. If the population grows according to the projection, the proposed scheme of downtown improvement should be adequate. If the population exceeds the projection, then the plan for relocation of the CBD should be considered. In either case, the Planning Commission and the Village Board should work closely to determine appropriate action.

IMPROVEMENT PLAN CENTRAL BUSINESS DISTRICT

Illustration 24



-  Existing Buildings
-  Proposed New Buildings
-  Replaced Old Buildings
-  Proposed Park
-  Land Scaped Area
-  On-Street Parking
-  Off-Street Parking



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FIRTH DOWNTOWN IMPROVEMENT

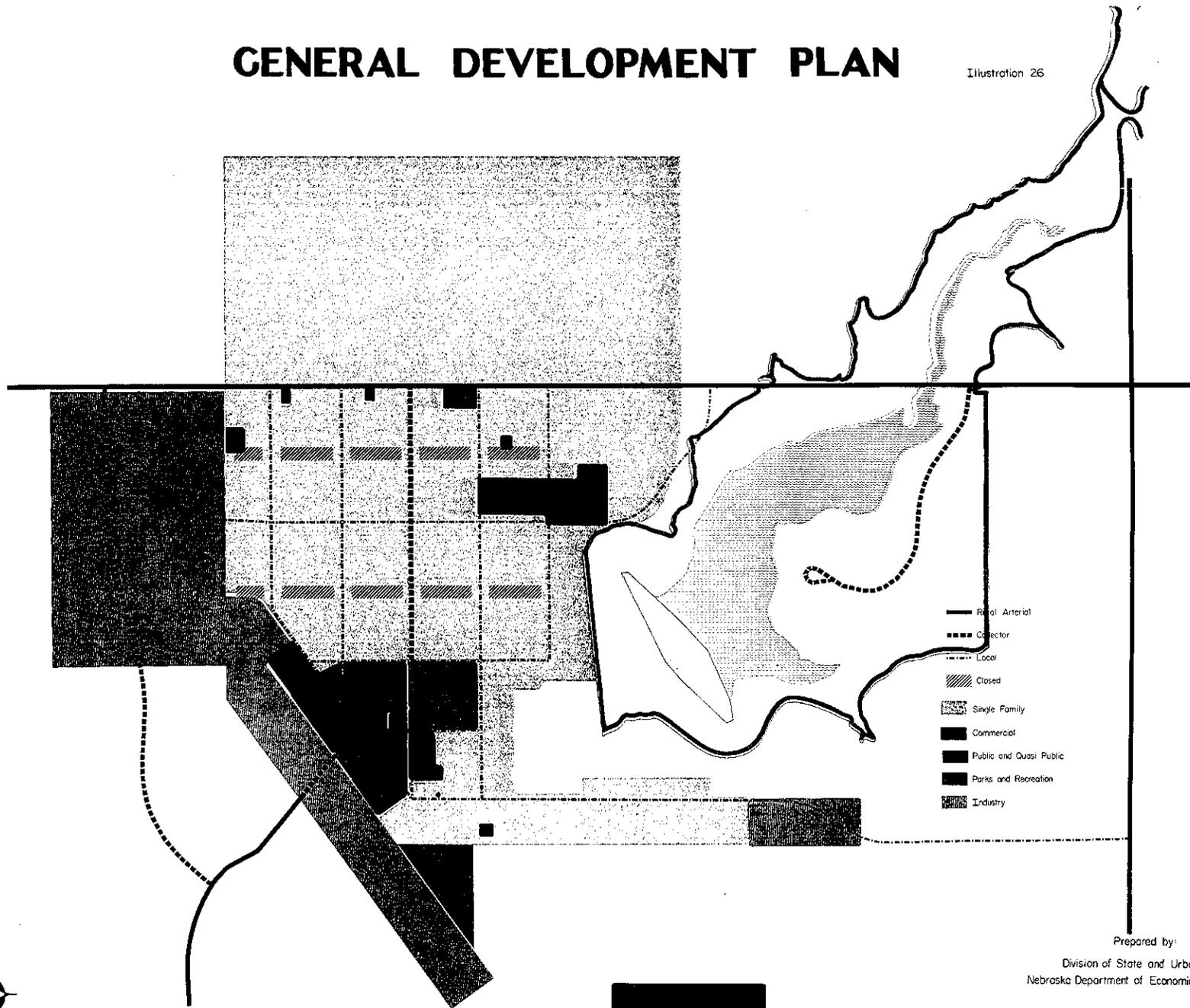
**GENERAL
DEVELOPMENT PLAN**

GENERAL DEVELOPMENT PLAN

Illustration 26 summarizes the proposals envisioned by the Planning Commission and the Consultant. It is a compilation of the Land Use Plan, Transportation Plan, and Community Facilities Plan, and represents the urban form in the next twenty years. Proposals in the Central Business District cannot be shown in this illustration, but they can be found in the appropriate section of this report. It is important to remember that this is only a generalized concept plan, and in no way represents a fixed policy. It is also important that the Planning Commission and the Village Board review the proposals from time to time to insure their feasibility.

GENERAL DEVELOPMENT PLAN

Illustration 26



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URBAN PLANNING GRANT

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