

S00 TOWNSHIP

**LAND
USE
PLAN**

**S00 TOWNSHIP PLANNING
COMMISSION
1977**

SOO TOWNSHIP
PLANNING AND ZONING COMMISSION

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Land Use Planning Assistance Was Provided

By

Eastern U.P. Regional Planning and Development
Commission

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ENABLING LEGISLATION

Township Planning Act (Act No. 168 of Public Acts of 1959, as amended through October, 1966).

An Act to provide for township planning, for the creation, organization, powers and duties of a township planning commission; and for the regulation and subdivision of land.

The following is a citation of Section M.S.A. #5,2963 (102) Purpose of Planning, Section 2.

The purpose of plans prepared pursuant to this act shall be to promote public health, safety, and general welfare; to encourage the use of resources in accordance with their character and adaptability; to avoid the over-crowding of land by buildings or people; to lessen congestion on public roads and streets; to facilitate provision for a system of transportation, sewage disposal, safe and adequate water supply, recreation and other public improvements and to consider the character of each township and its suitability for particular uses judged in terms of such factors as the trend in land and population development. (C.L. 48 #125.322).

INTRODUCTION

Land Use Planning deals with the complex interrelation of two basic resources, the land resource and the human resource. The land is a fixed, irreplaceable, non-expandable resource; population is an expanding and mobile resource. The present society is faced today with the challenge of accommodating more people on a fixed amount of land.

Man's relationship to the land resource is one of both dependence and dominance. Man depends upon land and associated environmental systems for all of the necessities that sustain life. At the same time, human society has developed to a high degree the ability to dominate and utilize the land resource. Land use planning is an attempt to establish and maintain a balance between the use and preservation of the land resource in order that it may provide a satisfying life for present generations and retain the ability to support future generations.

Life styles and social values rapidly and constantly change in our fast paced culture. Technological achievements are often far in advance of general understanding. Individually and socially, we need a method not only to anticipate change, but also, to effectively meet the resultant demands of change. Planning has achieved a measure of success in helping people to anticipate the future and provide for its needs because planning represents a systematic desire to achieve a degree of order and harmony from the seemingly unrelated aspects of our world.

The basic intent of the Land Use Plan is to recognize the land resource capability and suitability for different land uses in the township. A general land use plan will be developed based on land resource capability-

suitability, which eventually will provide a base for a zoning map. This plan is expected to help make township development and land use decisions more rational.

OVERVIEW OF THE TOWNSHIP

Location - People and Economy

Soo Township is located in the north-east part of Chippewa County and is bordered by Sault Ste. Marie City in the north; east and west Bay Mills sides touch the St. Mary's River and the south side is common boundary with Bruce Township and Dafter Township. Neebish Island is located in the lower part of the St. Mary's River complex. The mainland of the township lies within the area described T47N and R1W-R1E and the Neebish Island T45N and R2E. Three major highways, I-75, Mackinac Trail, and M-129 run north-south through the township.

The economic base of the township is primarily agricultural-oriented and being located next to Sault Ste. Marie, the largest urban center in the Region, a great number of people go to work in the city. New development in the city of Sault Ste. Marie is occurring towards its south side, particularly along I-75 Business Spur. A significant amount of commercial and residential development is crossing the city limits into Soo Township because of the city taxes and the rural environment. Other than the agricultural and commercial development along the city limit and along the major highways, sand mining is another significant economic activity.

The total population of the township was 1,617 in 1960, which increased to 1,775 in 1970; 1,904 in 1973; and to 2,244 in 1975. This increasing trend is expected to continue the rest of this century. Projections made by the Eastern U.P. Regional Planning and Development Commission, indicate that the present population will increase to about 3,000 by the year 2000.

An analysis of the age structure reveals that most of the age groups, in cases of percentage, are parallel to the Chippewa County age distribution except people 65 years and over. This group (65+) constitutes 6% of the township population where as 9% was in the county.

A significant educational activity is the Soo Township Area School, which holds classes from kindergarten to sixth grade and serves three other townships besides Soo Township.

NATURAL AND CULTURAL VARIABLES AND DETERMINANTS

A. RESOURCE INVENTORY:

1. Slope Interpretation

The slope characteristics of an area help to give an understanding of the drainage, erodibility and practicality of construction. Figure 2 was developed using USGS quadrangle sheets at a scale of two inches to one mile. Slope was determined by measuring horizontal distance between contour lines and is calculated in percent. One percent slope means that there is a rise or fall of one foot in horizontal distance of one hundred feet. To be more simplified, only two broad categories were developed such as 0-10% slope and more than 10% slope. Figure 2 indicates, with the exception of streams, there are a couple of ridges which have slope more than 10%. These areas are of small sizes which make them of not much significance. The rest of the Township is fairly level.

2. Soil Characteristics

Soils are an essential part of the area's natural resource inventory and are important in determining building foundation strength, effectiveness of septic tank sewage disposal, plant fertility, erosion hazards, and drainage conditions. All of these factors are crucial in determining the nature and extent of development that should occur within the township.

A general soils survey, which was done during the 1920's, is the only reliable soils information available for the township (Figure 3). This soils information consists of about 50 different soil types. Most of these soils are not generally understandable; therefore, with the close cooperation of the Soil Conservation Service (Mr. Dave Ottoson) each of

these soils were evaluated for their capabilities for residential and agricultural uses, and were grouped together in general and common terms like sandy soils, clay soils, etc. Figure 3, which is an original soils survey, indicates that most of the area in the township has clay soils except some sandy and mucky areas. The western end of the mainland has mucky soils. Neebish Island has sandy soils in the northern one-third of the Island.

3. Bedrock Geology

Geological factors play a very significant role in land use planning. The depth of bedrock from the land surface is very critical for most of the land uses. Generally, it is considered that if bedrock is within ten feet of the surface, that area is incapable for land uses like residential, commercial, and industrial, etc., particularly where public sewer and water facilities are not available. In this township, geological information review indicates that the bedrock is much deeper than the significant depth of 10 feet from the surface in the entire township.

4. Vegetative Cover

This figure contains three types of information: forest land, swampy area, and open land, which includes agricultural land. This information was taken from U.S. Geological Survey quadrangle sheets. Figure 4 shows that the mainland of the township is primarily cleared except the extreme west part and some other small areas which are scattered through the area and are forest covered. Most of the land is high ground except in the western end where the area, which is about one section of land, has swampy conditions. The Neebish Island situation is the opposite, most of this area is under forest cover except about one section of land, located in the middle of the island, which is cleared. About one-fourth of the island has swampy conditions which is scattered into three areas.

5. Land Ownership

This man-made determinant (Figure 5) shows two types of land ownership: 1) private, and 2) public (State). Out of the total 43 square miles of township area only seven square miles are under state ownership and the rest is private which is divided into smaller holdings. There is no corporate ownership in this township.

6. Existing Development (Structure)

The information of this variable was gathered through a special survey, which was conducted by the Eastern U.P. Regional Planning and Development Commission in 1972. This variable contains structural development information which is divided into four categories: 1) year-round residences, 2) seasonal homes - cabins, 3) public buildings - church, school, etc., and 4) commercial-industrial. Figure 6 indicates that most of the development is on the mainland. Although development is scattered all through the township, but still development is concentrated along the major highways, three mile road which is the city limit, and also the three major subdivisions. These subdivisions are Sun-Glow, Osborn and Radar Road. Because of agriculture as a major economic factor of the township, this scattered development pattern and linear development pattern along the highways, are quite likely. Increasing trend of the population in the township will further complicate the problem along the highway unless some strict land use plan and zoning ordinance is enforced in the area. The Neebish Island situation is somewhat different. Although development is of scattered patterns but concentrating along the waterfront which might create environmental problems along the shoreline.

B. DEVELOPMENT OF CAPABILITY CRITERIA

Capability of a certain geographic area, for different land uses for human activities, depends on the proper combination of the physical features of the ecosystem of that area. For example, residential development requires good soil conditions, adequate ground water if public supplies are not available, and fairly level contour. On the other hand, residential development may create certain stresses such as pollution of ground water supplies with septic tank effluent, or downstream flooding caused by removing vegetative cover. All of these factors must be considered before determining if a particular area should be used for residential development.

For these reasons, the natural resource information presented previously can be used to develop capability maps of such land uses as septic tanks, residential, commercial-industrial, agricultural, recreational and etc.

In the case of Soo Township, the development of residential and agricultural capability maps were considered necessary. The main reasons for limiting the capability maps to residential and agriculture are: 1) that agriculture is an important economic factor and 2) rising prices of farm products in the area, state, and nation, indicate that agricultural land will become more important. It would be particularly true in the Eastern U.P. Region where good agricultural land is limited. It is also true that the city's growth (Sault Ste. Marie) spin off is bound to occur in this township, therefore, rural as well as concentrated residential development is expected in the future.

"Capability" may be defined as the ability of the land to accomodate its different uses without creating significant problems for either the inhabitants of the area or the environment.

In order to develop residential and agricultural capability, physical characteristics of the area were rated in ranges of best, adequate, or incapable. These criteria were discussed and adopted by the Township Planning and Zoning Commission.

CAPABILITY CRITERIA

PHYSICAL ELEMENT	RESIDENTIAL WITHOUT PUBLIC SEWER & WATER	AGRICULTURE
SLOPE:		
0 - 5%	B	B
5 - 10%	A	A
10 + %	I	I
DEPTH OF BEDROCK:		
Bedrock near or at the surface	I	I
Bedrock 10 or more feet from the surface	A	-
SOILS CLASSIFICATION:*		
Clay Soils	I	A
Sandy Soils	A	I
Muck Wet Sands	I	I
Bedrock Soils	I	I
Stoney Soils	I	I

FOREST-SWAMP AREAS:

B = BEST

A = ADEQUATE

I = INCAPABLE

- = DOES NOT APPLY

To develop a residential capability map, the first step was to identify those areas that are incapable of supporting residential development such as slope 10% and over, swampy areas and bedrock closer to the surface and areas with severe soil limitations. Areas with moderate soil limitations and the areas where soil has a slight limitation for the on-site sewage disposal, are marked as capable and most capable respectively.

To develop agricultural capability areas with 10% or more slope, swampy areas, bedrock closer to the surface, and the areas where soil has severe limitations for agriculture, are rated at least capable. Areas which have moderate soil limitations are called moderately capable and there is no such area which can be called most capable.

Figure 7 (Residential Capability) indicates that most of the land is least capable for on-site septic systems in the township. In the case of the mainland of the township, there is a small area which has sandy soil, therefore, is most capable. This area is located around I-75, the Mackinac Trail, and Three Mile Road (city limits) intersections. On Neebish Island there is also a small area along the western front which has sandy conditions. The northern one-fourth of the island has somewhat favorable soil and other physical characteristics for an on-site sewer disposal system. The rest of the island has similar heavy soils as they are on the mainland, which are least capable for supporting an on-site sewer system.

For agricultural capability, Figure 8 shows that most of the land is moderately capable for agriculture except a few small sized areas which are least capable and are scattered through the township.

C. LAND USE GOALS AND OBJECTIVES

Historical and physical knowledge of the area forms the basis for a logical starting point upon which objectives and goals can be developed.

The first chapter of this report provides necessary background information concerning location, dimension of the study area, population summary and the economic overview of the township. Chapter II provides natural and cultural variables and determinants which are critical in establishing area goals and objectives. This Chapter also includes capability-suitability information to be used as a guide for goals and

objectives formulation by the township officials. Thus, to be realistic, township goals should match or clearly reflect township potentials. The physical information mentioned above should assist township leaders and citizens since it portrays a clear picture of the present situation, as well as its future potentials.

The following is a brief summary of the conclusions which were drawn from the previous chapters and should be considered during the formulation of township development goals and objectives:

1. Population is expected to keep up the past increasing trend and by the end of this century it is expected to reach about 3,000 people from about 2,000 at present.
2. A significant commercial development is expected to support the population growth and to accommodate the overflow of Sault Ste. Marie. This new growth will occur primarily along the major highways and city-limits, and also in existing subdivisions.
3. Agricultural potential is significant, therefore, it should be safeguarded.
4. Most of the township land is least capable for on-site sewer disposal systems therefore, new development should be concentrated into a few years where public water and sewer could be economically provided in the future. Development in other areas should only be permitted if the lot sizes are adequate to protect the environment.
5. Existing development pattern is reaching to the point where it could harm the natural environment as well as human well-being. Therefore, the existing pattern must be checked.
6. Neebish Island has a great recreational potential particularly outdoor recreation and seasonal home development. Such assets must be preserved and protected from misuse through proper planning and zoning and other such regulations.

Suggested Land Use Goals:

1. Natural environment of the township should be protected.
2. Agricultural land should be protected and preserved from misuse.
3. Plan unit-development should be encouraged where as hodgepodge development should be discouraged.
4. Improve economic base of the township by protecting agricultural industry and by encouraging commercial activities in proper areas.

TOWNSHIP PLANNING CONCEPT

The process of translating township land planning goals, wishes of the people, and developmental constraints into a master plan borders on being an intuitive process. A simple computer like "balancing the books," lacks the social and human dimensions which are of utmost importance in developing a plan for any area. Thus, the plan presented in this report, while never abandoning the primary need to meet the hard facts, does reflect considerations of human scale in development planning.

The basic concept in this planning effort is to regulate development in such a manner that will preserve and protect the natural environment and rural characteristics of the township.

CONCEPT #1 - PLANNED RESIDENTIAL DEVELOPMENT

Future development in the township must be planned in which the township will be able to have a hand in development decisions by enforcing criteria regarding density, design and the location of such development. Through the development and enforcement of such standards, township officials will be able to:

1. Encourage growth in areas which are convenient to existing public services and utilities, which will in turn keep public costs at a minimum.
2. Control population densities in the developing areas, so as to maintain a population balance within the township.
3. Through the enforcement of a particular design criteria the township officials can insure the design of new developments consistent with the characteristics of the area, as well as the adjacent development.

CONCEPT #2 - COMMERCIAL DEVELOPMENT

Commercial development in Soo Township should be such as to provide the optimum land of services to the residents of the area. Recognition of the near proximity (Sault Ste. Marie) of certain services should also be made so as not to develop commercial establishments which already exist a short distance away. Land use conflict should be the minimum possible with neighboring development. Commercial development which demands public sewer systems and water systems should locate along city (Sault Ste. Marie) limits, where it would be economical to cooperate with the existing city systems to provide such services.

CONCEPT #3 - PRESERVATION OF NATURAL OPEN SPACE AND SIGNIFICANT NATURAL FEATURES

This concept seeks to preserve and protect flood plains, wetland, waterfront by preventing those projects which call for major alteration of stream beds or draining and filling of wetland and waterfront areas. Ideally, those features should be somehow incorporated into the design of future developments.

SOME OF THE RECOMMENDATIONS

In order to transform the previously mentioned land planning concepts into tangible results, local officials must make certain decision, formulate and enforce consistent policies, and initiate various actions. The following recommendations are a mixture of decision, policy, and action recommendations designed to enable the township to achieve its goals and preserve their values.

1. Nodalize and limit commercial development along the city limits and intersections M-129, Mackinac Trail, and I-75 Highways. Allowing unlimited commercial development in a strip-fashion along the highways could result in a number of complex and inter-related adverse impacts on the township which could be:
 - (a) Traffic hazards
 - (b) Devaluation and deterioration of commercial development on the interchanges of highways along the city limits and also inside the City of Sault Ste. Marie.
 - (c) Waste control problems
 - (d) Increased tax burdens on other land uses
2. Existing zoning should be adjusted to the new plan and enforced strictly.
3. Township Planning Commission should be given a new responsibility to negotiate with the existing industrial establishments (mainly gravel and sand mining) for reclaiming, fencing and other aesthetic measures to their operations. Some of the operations are irrational and are becoming a nuisance to the people of the township.
4. As the commercial development occurs along the city limits inside of the township, township officials should cooperate with the City of Sault Ste. Marie to get city sewer and water systems extended to those commercial areas which would be more economical than having their own new systems.
5. Select and designate areas for moderate density development.
6. Establish setback and access policies for township road system.
7. Establish children's parks in three subdivisions--Radar, Osborn, and Sunglow.
8. Establish a trails system along the abandoned Soo Rail Line.

9. Preserve areas of environmental significance from encroaching development.
10. Wooded lots should be protected.
11. Develop township recreation plan to provide better recreational facilities to the people of the township.

ZONING

The most important measure the township can use to achieve its planning goals is zoning. A well designed ordinance along with an equally well designed map of zoned districts, followed by fair and just administration, will go a long way toward the proper implementation of a plan.

RECOMMENDATION:

Redesign the existing township zoning ordinance and map in order to adjust with this plan and the plan concepts.

Following are the suggested zoning districts and some of the general standards:

Agriculture

10 acre minimum lot size, limited to agricultural uses, single-family dwellings and outdoor recreational activities. The purpose of this zone would be to preserve and retain the rural life style and agricultural land of the township.

Residential

Minimum lot size, one acre to prevent dense development, as well as excessive pressure on the underground water supply.

Because most of the soil in the township has severe limitations for on site septic systems, therefore a workable standardized design should be established.

Commercial

This district should allow most commercial uses, but strict design standards should be enforced.

The township will find it necessary to allow continued operation of existing commercial uses outside of the commercial district. These uses should be allowed as legal non-conforming uses, however, no attempt should be made to expand them.

Industrial

Gravel and sand mining is the only significant industrial activity

in the township. It should be continued but special efforts should be made to safeguard the integrity and the safety of the neighboring land uses. Special consideration should be given to the aesthetic value of the area. Some of the sand mining activities along Three-Mile Road and Radar Road are becoming a nuisance to the residents and dangerous enough to cause certain mishaps. Special buffer zones should be established between conflicting land uses.

Waterfront District

At least 500 feet wide area along the St. Mary's River should be established as Waterfront District to regulate the development. Residential and recreational oriented development should be allowed in the area. No future development should occur in the first 100 feet from the high water mark. Two sub-districts are suggested - intensive use - extensive use.

Medium density should be allowed along the lower St. Mary's River waterfront, whereas low density along the upper St. Mary's River waterfront.

Forestry/Recreation

Certain areas as shown in the suggested zoning map are under forestry and have somewhat swampy conditions. These areas are marked to be used for forestry and recreation oriented uses. Residential and such other development should be discouraged. These areas will serve as natural areas of the township.