

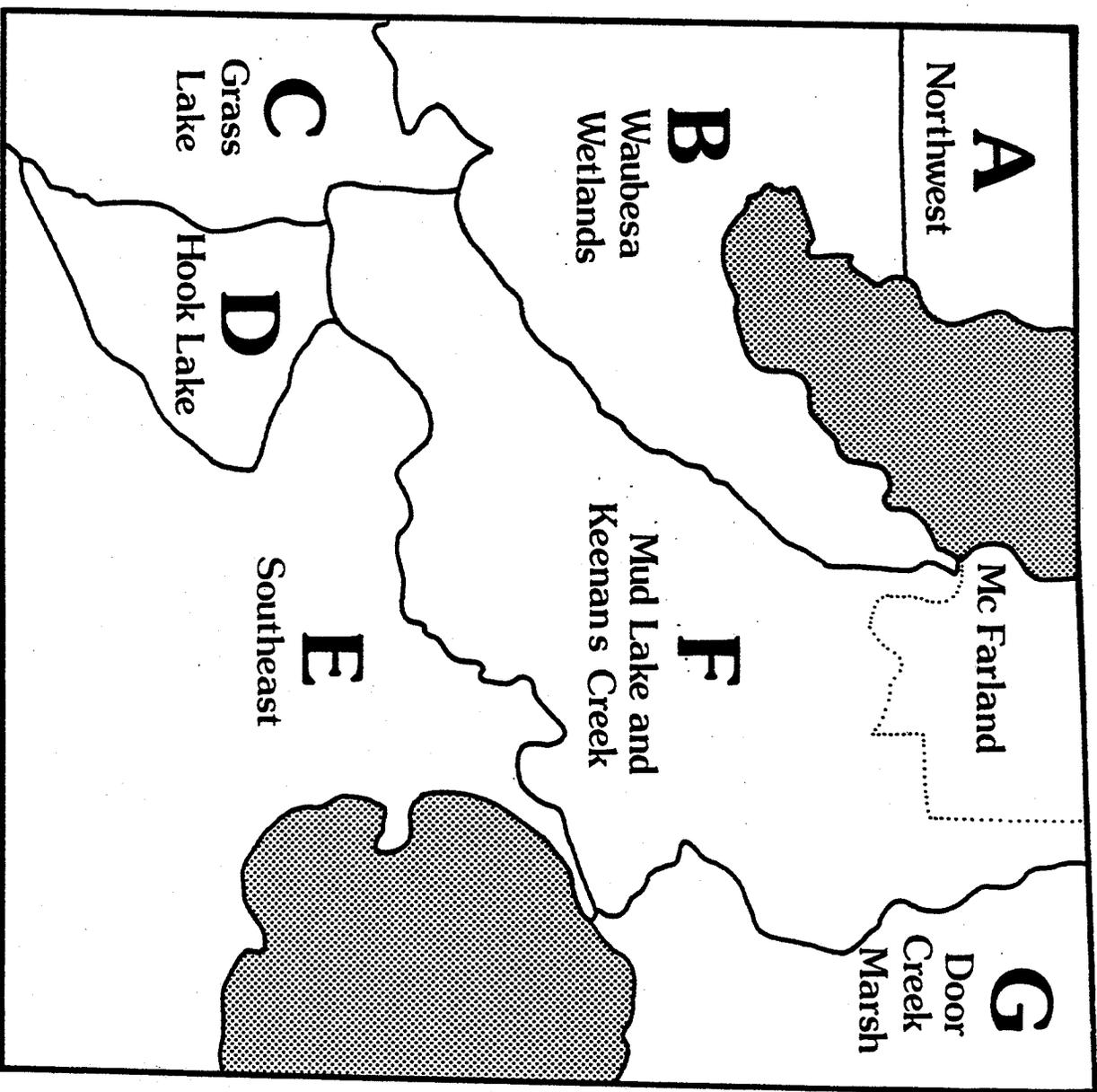
V. STUDY AREA ANALYSIS

This section contains a detailed analysis, by study area, of the open space resources in the Town of Dunn. Individuals and agencies contemplating land use changes in the town should find this information very helpful in successfully developing proposals that will be consistent with the town land use plan. When studying this section and developing land use proposals, keep in mind the discussion of the open space functions presented in Section III.

STUDY AREAS

As mentioned in the introduction to this report, the Town of Dunn contains a high number of important environmental resource areas. As a result, the town was divided into different study areas. This was done so that the different characteristics of each area could be carefully analyzed. The town planning commission and the study team determined that the town should be divided into seven study areas:

- A. Northwest—The northwest corner of the town, above Goodland Park Road.
- B. Waubesa Wetlands—The area around the Waubesa Wetlands and much of the area around the southeastern shore of Lake Waubesa.
- C. Grass Lake—The southwestern corner of the town, including Grass Lake.



AREA ANALYSIS

- D. Hook Lake—The small, internal drainage area immediately around Hook Lake.
- E. Southeast—The southcentral and southeastern part of the town.
- F. Mud Lake and Keenans Creek- The area surrounding Keenan's Creek, which drains into Mud Lake, and the area to the northeast of Mud Lake.

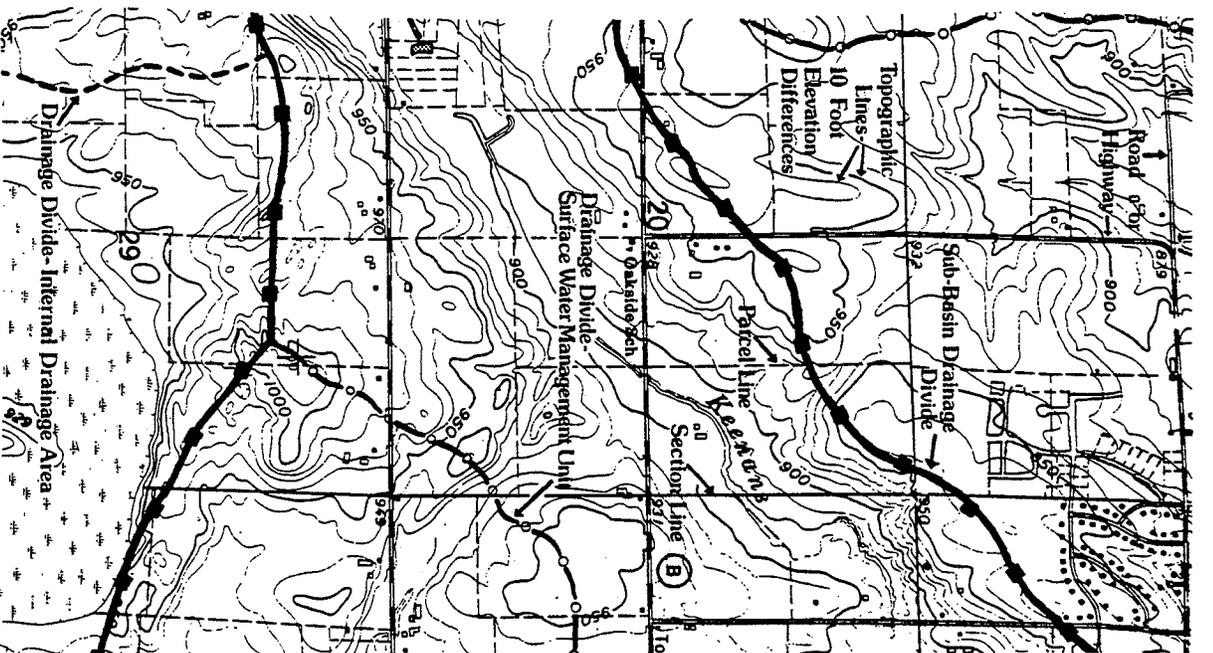
G. Door Creek Marsh—The area around Door Creek Marsh, in the northeastern corner of the town.

Drainage divides (see Section II) were used as study area boundaries because surface water movement plays a large part of determining the character and quality of environmental resources. Also, drainage divides coincide with ridgelines, which serve as visual and aesthetic boundaries. The only exception to the use of drainage divides as study area boundaries is the choice of Goodland Park Road as the boundary between the northwest and Waubesa Wetlands study areas. Members of the plan commission felt that the northwest area should be looked at separately from the Waubesa Wetlands area.

In order to develop recommendations for this study and to provide an information base for future land use decisions, a series of maps was developed for each study area. The original set of colored maps is available for use at the town hall. This report contains five maps for each study area, including:

1. **Zoning, Flood Plain, and Sanitary District Boundaries:** Most of the town is zoned for exclusive agricultural use. Residential, commercial, and business zones indicate where most dense, non-agricultural land use occurs. The boundaries of the 100-year flood plain show where lowland areas may be subject to flooding. Sanitary district boundaries indicate where future sewered developments may occur, and consequently, where significant open space preservation measures may be needed.

2. **Land Ownership Patterns:** Land ownership patterns provide some indication of where future threats to the open space system might occur. Landowners who don't live in the town are often more likely to own their land for speculative purposes. On the other hand, land owned and worked by resident farmers is usually the least likely to be developed. Areas containing dense development can indicate potential runoff problems, due to large areas of impervious surfaces. The land ownership maps also show where public open space land is found.



Map Scale: 1" = 2000'

Explanation of Base Map Features

3. Woodlands, Wetland Ecosystems, and Historical Resources: These maps describe the characteristics and qualities of the woodlands and wetlands in each study area. More specific information concerning the woodland and wetland areas are contained in the appendix volume to this report. Areas such as hedgerows and small groups of trees are not shown on these maps, but may be important for wildlife or aesthetic purposes. These areas should also be considered when specific development plans are formulated.

Historical and archaeological resources are also discussed in this section. Archaeological sites are not located on the maps because of possible digging or vandalism problems. The town planning commission can be consulted for the precise locations of known archaeological sites.

4. Environmental Resources Overlay: These maps combine the major elements of the open space system: drainage patterns, springs, steep topography, woodlands, and wetland ecosystems. These elements were combined to show how the quality of stream, wetland, and lake resources is dependent on the wise use of land in the uplands. Agricultural and development activities should respect steep slopes and natural drainage areas.

Slopes that contain less than a 12 percent grade can be used if proper erosion control measures are used. Slopes that range between a 12 and 20 percent grade are inappropriate for some uses and, when they are used, erosion control guidelines should be very carefully followed. Slopes with a grade greater than 20 percent contain severe erosion hazards and in most cases should not be disturbed. The Dane County Soil Survey and the Dane County Soil and Water Conservation District Office are both valuable sources of additional information.

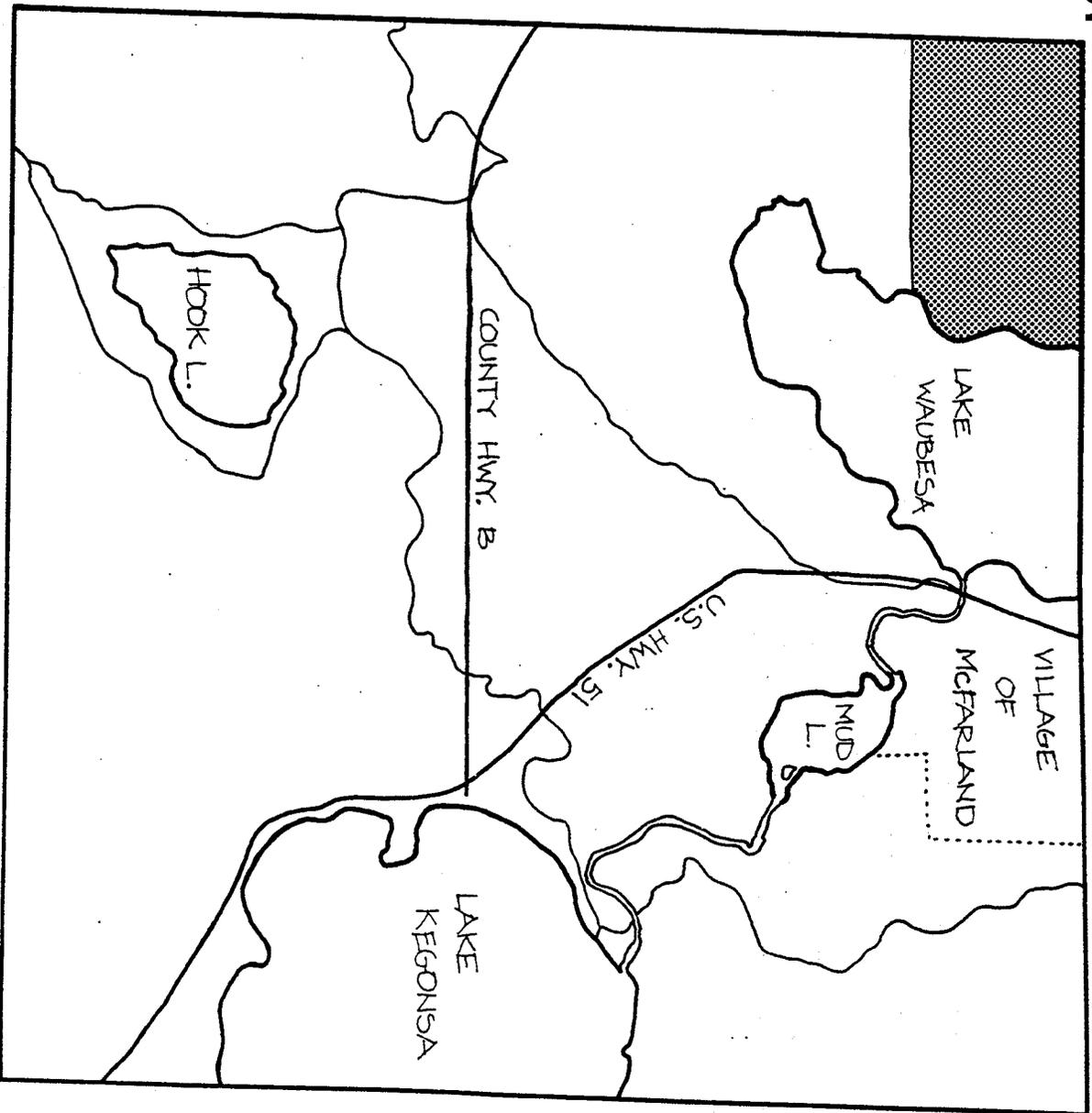
The intermittent drainage patterns show where surface runoff originates and where it ends up. More precise locations of drainage channels can be determined by field analysis or by consulting farmers who have worked the land under consideration. These maps also show spring sites which are an important source of clean water for the lakes.

Land use changes in or adjacent to the areas shown on these maps can have a major impact on the functions that they serve. Consequently, these areas should receive close attention when land use changes are reviewed by the Town Plan Commission. Special measures such as buffer strips and graded density development adjacent to these areas may be necessary to preserve open space functions. Archaeological, historic and cultural resources, hedgerows, small groups of trees, roadside vegetation, and scenic resources which are not shown on these maps should also be carefully reviewed.

5. Functional Analysis: These maps graphically highlight some of the major open space functions occurring in each area. They are accompanied by a description of the functions that occur in each study area.



A. NORTHWEST



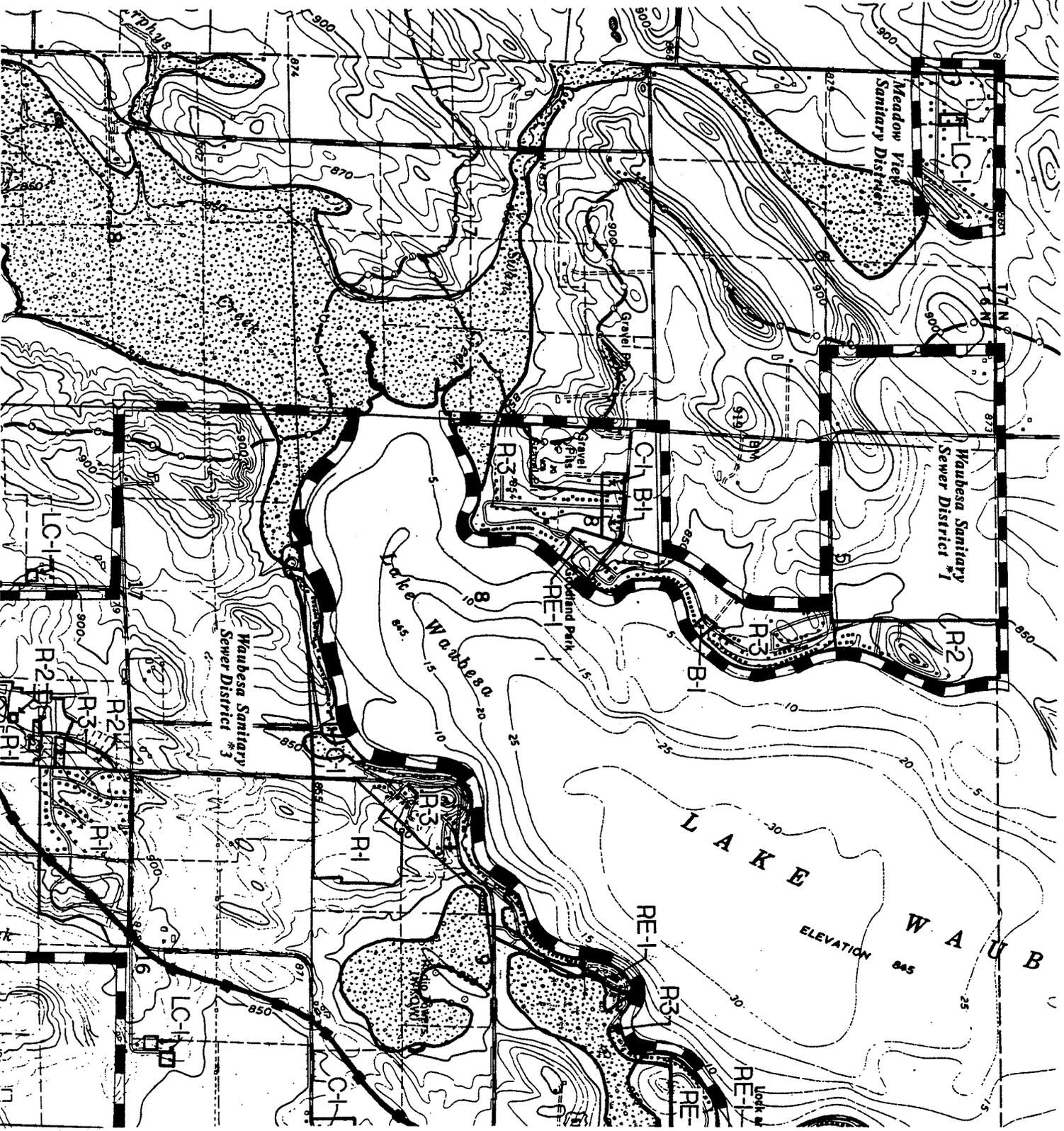
The Meadowview Sanitary District represents a district that was formed to solve the problem of failing septic systems. The district's boundaries are no larger than the subdivision. In contrast, the sanitary district adjacent to the west shore of Lake Waubesa is over twice as large as was needed to solve the pollution problems caused by failing septic systems along the lakeshore. If all of the land in the

district is eventually covered with dense development, pollution and other problems could be as great as if the district had not been created.

Parts of the Meadowview subdivision lie over extremely wet soils. Further sewer development in this type of area should not occur because during periods of high water the sewer

is often used as a sump pump to pump out flooded basements. This results in inefficient use of the public sanitary sewer system.

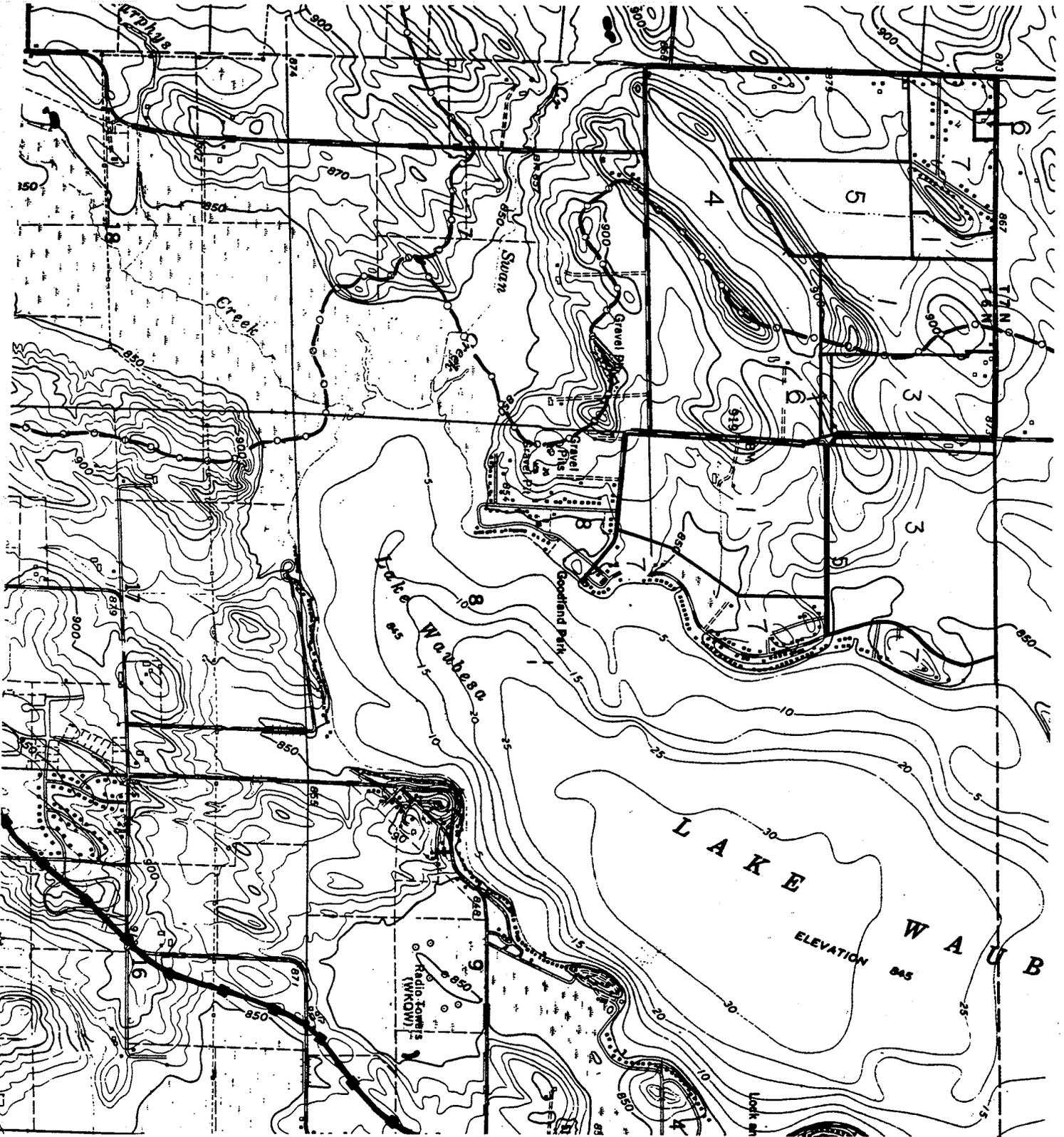
There are three small areas along the west shore of Lake Waubesa that lie within the 100-year flood plain. Shoreline development has already occurred in two of these areas.



Zoning, Flood Plains, & Sanitary Districts

-  100 YEAR FLOOD PLAINS
-  SANITARY SEWER DISTRICT Boundaries
-  ZONING Boundaries

This study area contains dense development in the northwest corner and along the west shore of Lake Waubesa. Other than that, the rest of the study area remains in large parcel holdings. These large parcels are found in relatively equal proportions of owner-operated, resident owner-rented, and absentee owner-rented ownership situations. The publicly owned parcel in the western half of the study area is owned by the Dane County Parks Commission. No active recreational uses are currently planned for this area. Most of this area consists of low, marshy land.



Land Ownership Patterns

1	LAND OWNED AND TILLABLE LAND WORKED BY RESIDENT FARMER.
2	LAND OWNED AND TILLABLE LAND WORKED BY NON-RESIDENT FARMER.
3	LAND OWNED BY TOWN RESIDENT, BUT TILLABLE LAND LEASED TO FARM OPERATOR, SEED CO. OR CANNING COMPANY.
4	LAND OWNED BY NON-RESIDENT OF TOWN. TILLABLE LAND LEASED. PUBLIC LAND, RECEIVED BY A NON-PROFIT GROUP.
5	LARGE-LOT RESIDENTIAL LAND. PARCELS GREATER THAN FIVE ACRES.
6	SMALL LOT RESIDENTIAL LAND. PARCELS SMALLER THAN FIVE ACRES.
7	NON-FARM, NON-RESIDENTIAL PARCELS. OWNED BY TOWN RESIDENT.
8	NON-FARM, NON-RESIDENTIAL PARCELS. OWNED BY TOWN RESIDENT.
9	NON-FARM, NON-RESIDENTIAL PARCELS. OWNED BY NON-TOWN RESIDENT.

Little specific information is available about the wetlands in this study area, as they were not covered in the *Wetlands of Dane County Wisconsin* report. One excellent and two fair woodlots are found in this study area. The following includes a brief description of the woodlots surveyed in Study Area A:

A1—Rating, excellent; Size, 44 acres

This woodlot contains typical dry hardwood species, a sparse to medium invasion of honeysuckle, and a mixed age stand of trees. Slopes are moderate to steep and it provides an ex-

cellent vista of the Madison skyline. Physical damage is minimal with grazing discontinued about 10-20 years ago. A publicly owned wetland lies adjacent to the woodlot.

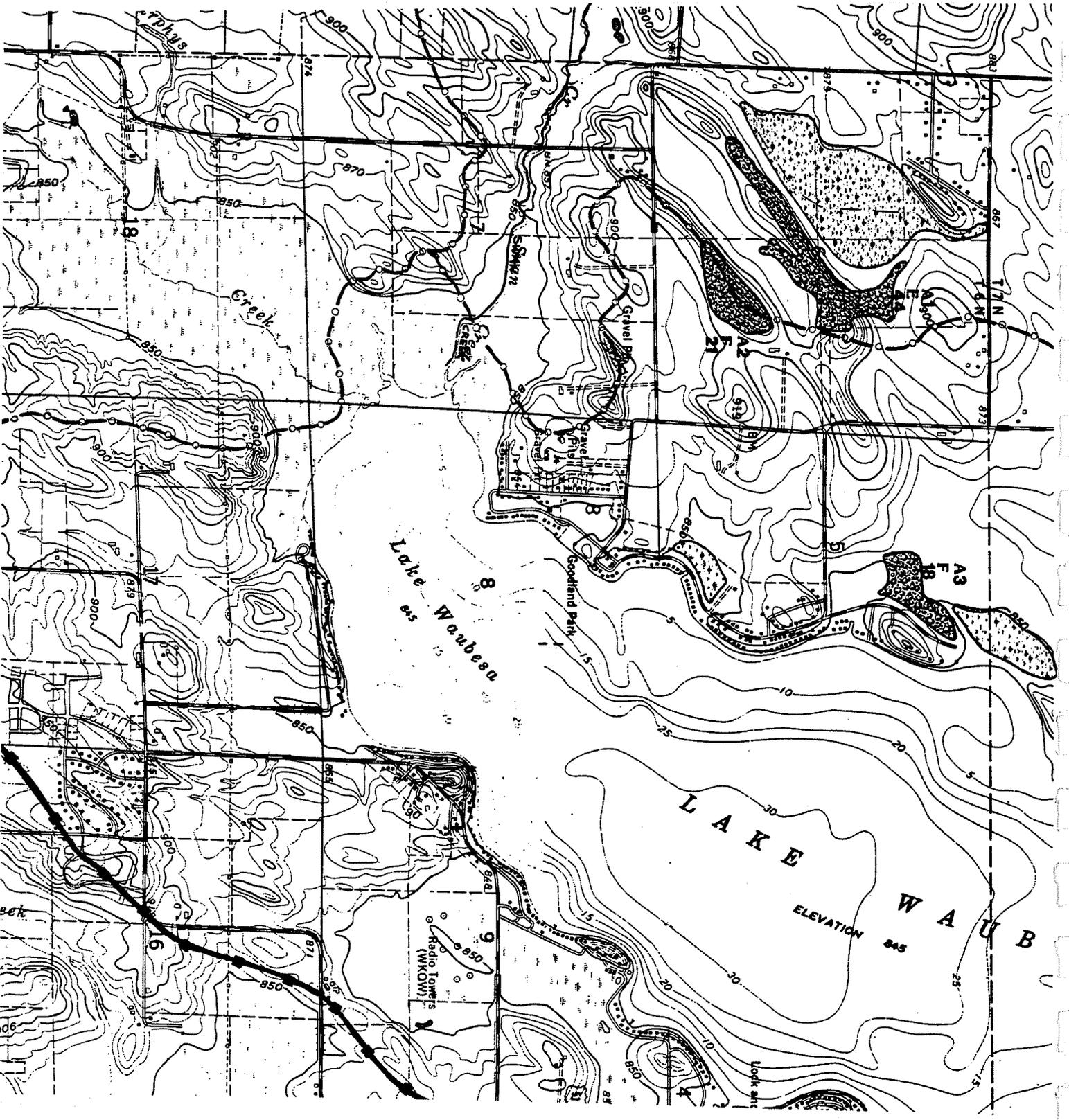
A2—Rating, fair; Size, 21 acres

This woodlot contains typical dry hardwood species, a dense invasion of honeysuckle, and most trees are old or very young. Slopes are moderate to steep and a vista from the hill is present. Physical damage is apparent with patches of exposed soil present.

A3—Rating, fair; Size, 18 acres

This woodlot is an open grown oak stand with patches of very dense honeysuckle. Old and very young trees are present. A wetland lies to the north and Lake Waubesa lies to the east of the woodlot.

Several archeological sites can be found in this study area, and a modern survey would probably turn up more. Some Indian mounds are found along the lake, having been preserved by conscientious landowners. Hopefully future development will not destroy the remaining mounds in this area.



Environmental and Historical Resources

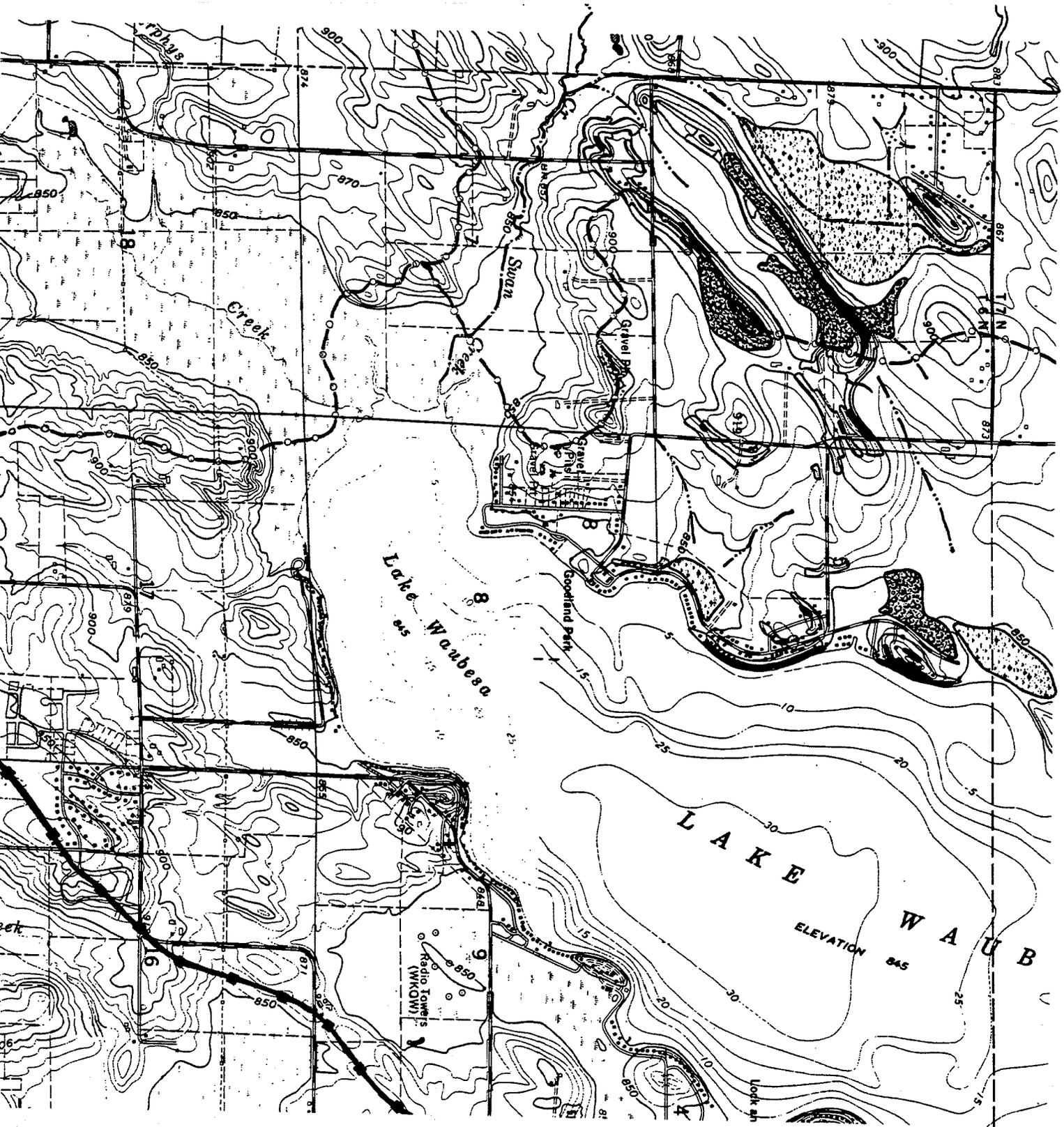
	Wetland Ecosystem
	Woodlots
B10	FIELD SURVEY SHEET NUMBER
E	WOODLOT QUALITY CATEGORY
55	WOODLOT SIZE, IN ACRES
E	WOODLOT QUALITY CATEGORIES
E	EXCELLENT
G	GOOD
F	FAIR

SECTIONS CONTAINING KNOWN ARCHAEOLOGICAL SITES: 5 6

The two bands of steep topography facing in a southwestern direction represent glacial features called drumlins. Drumlins are long cigar-shaped hills that were molded under glacial ice. These are the finest examples of drumlins in the town and represent an interesting part of the town's Ice Age heritage.

The combination of vegetation and steep topography here shows how the two drumlins dominate the landscape in this study area. If new roads are ever needed in this area, their design should respect the integrity of these geologic features.

The western half of this area drains into Swan Creek, while the right half drains directly into Lake Waubesa. Unwise use of the steep slopes in this study area could cause erosion and runoff problems in both of these resources.



Environmental System Overlay

	WETLAND ECOSYSTEM
	MUDDLOT
	PONDED SPRING
	SPRING
	GROUP OF SPRINGS
	STEEP TOPOGRAPHY 12 - 20% SLOPE OVER 20% SLOPE
	INTERMITTENT DRAINAGE
	PERENNIAL DRAINAGE

P=function present

Functions found in Study Area

P+ =function very important

R=function present, but rehabilitation needed

(P)=future potential for function in area

5. Maintenance of Groundwater System

Aquifer Recharge (Quality and Quantity) P

Aquifer Discharge (Quality and Quantity) P

6. Provision of Recreation Opportunities

Fishing (in or adjacent to study area) P

Hunting and Trapping P

Water Recreation (in or adjacent to study area) P

Picnic & Play Grounds P

Corridors for Walking, Hiking, Skiing, Etc. (P)

Wild Food Gathering P

7. Education and Spiritual Enrichment

Formal and Individual Education P

Spiritual Enrichment P

8. Historic and Cultural Sites and Settings

Archeological Sites and Settings P+

Settlement and Cultural Sites and Settings P

9. Community Separation

Protection of 100-Year Floodplain P

10. Property Value Enhancement P

Non-Structural Flood Control R

Surface Water Quality Protection P

Acoustic Isolation P

Long Distance Views and Vistas P+

High Visual Quality Within Marsh and Stream Areas P

1. Natural Systems Preservation

Feeding Habitat P

Nesting/Resting/Breeding Burrow Habitat P

Wintering/Migratory Habitat (Waterfowl)

Movement Corridors P

Plant and Animal Diversity R

Scientific Research (P)

Aesthetic Quality Preservation

High Visual Quality From Roadides P

High Visual Quality Within Marsh and Stream Areas P

Long Distance Views and Vistas P+

Acoustic Isolation P

Surface Water Quality Protection P

Nutrient and Sediment Control R

Non-Structural Flood Control P

Protection of 100-Year Floodplain P

10. Property Value Enhancement P

9. Community Separation P+

Settlement and Cultural Sites and Settings P

Historic and Cultural Sites and Settings P+

Formal and Individual Education P

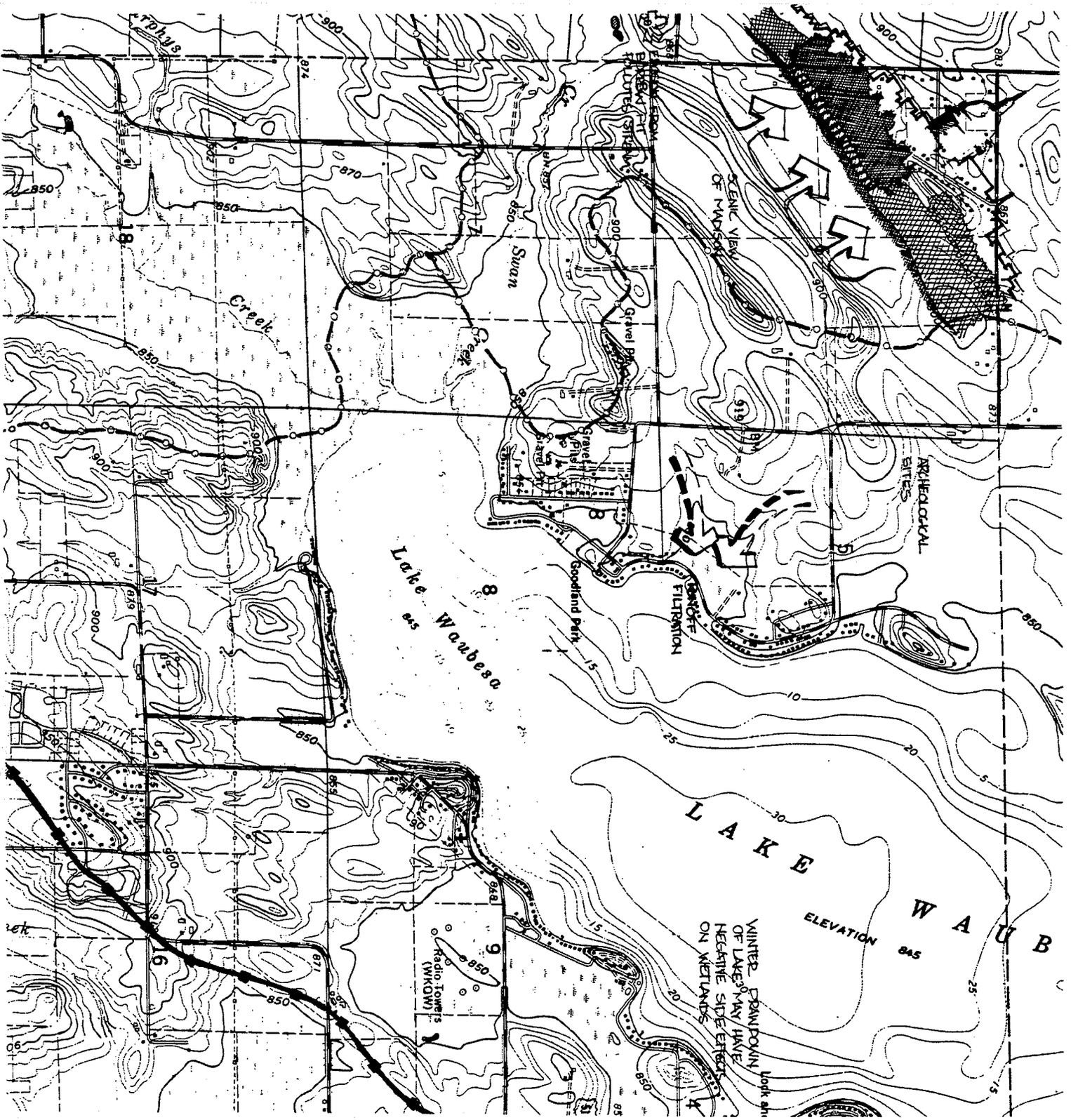
Wild Food Gathering P

Corridors for Walking, Hiking, Skiing, Etc. (P)

Major Highlights

The wooded drumlin and the adjacent wetland area combine to provide both aesthetic and wildlife functions. A drainage ditch runs through this wetland area. Through some changes in the drainage system, perhaps the wetland could function to filter runoff through this area before it reached Swan Creek. The borrow pit that lies just across the town line is an obvious and unnecessary source of runoff pollution to Swan Creek. The small wetlands along Lake Waubesa perform an important runoff filtration function.

One of the reasons why this corner of the town was considered a separate study area was to draw attention to the future potential function of this area as a community separation buffer from future urban growth from the north and northwest. The two drumlins and adjacent wetland area could perform this separation function by acting as a buffer between dense urban development and the Waubesa Wetlands area to the south and the Lake Waubesa area to the east.



Functional Analysis

