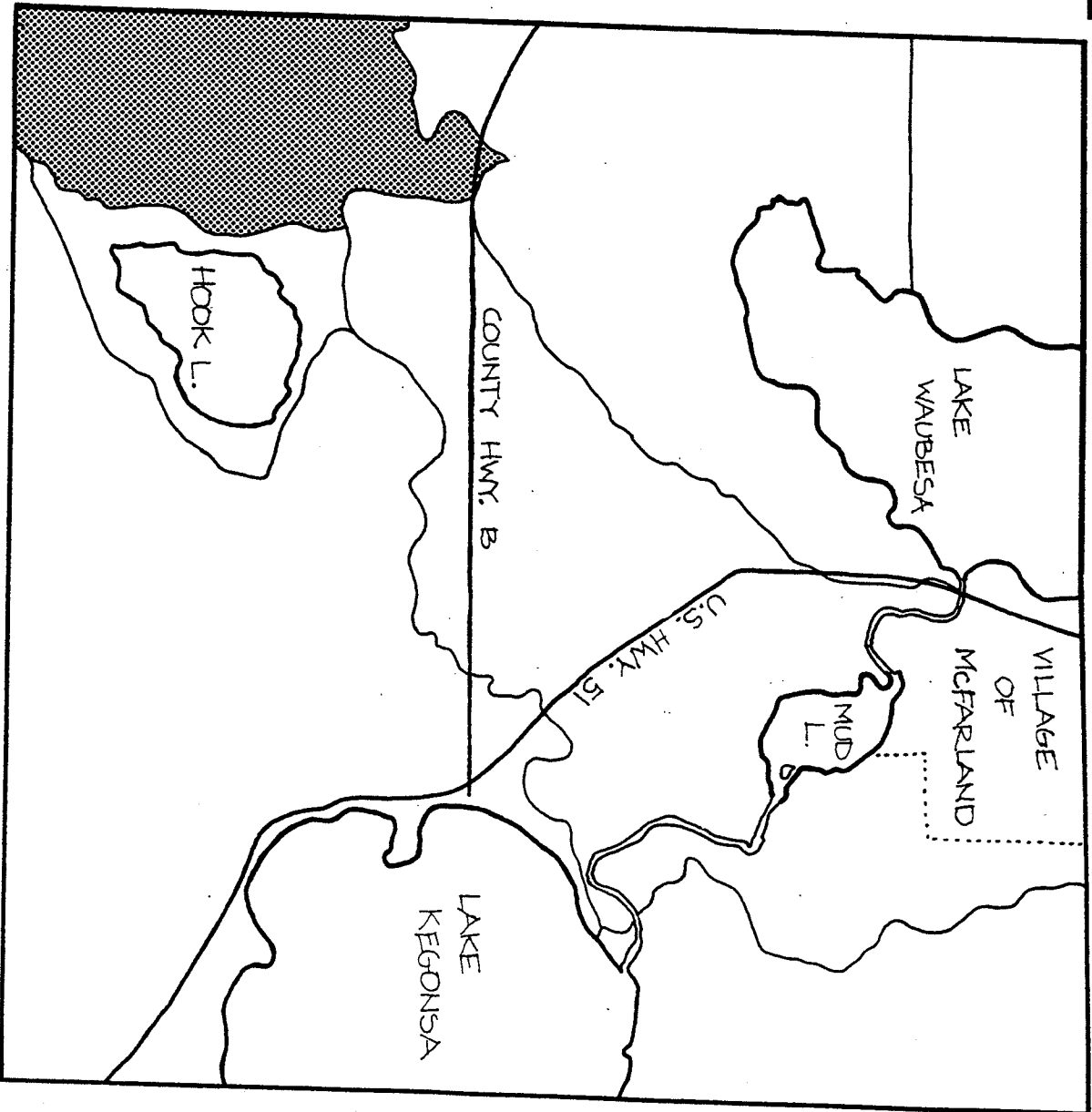
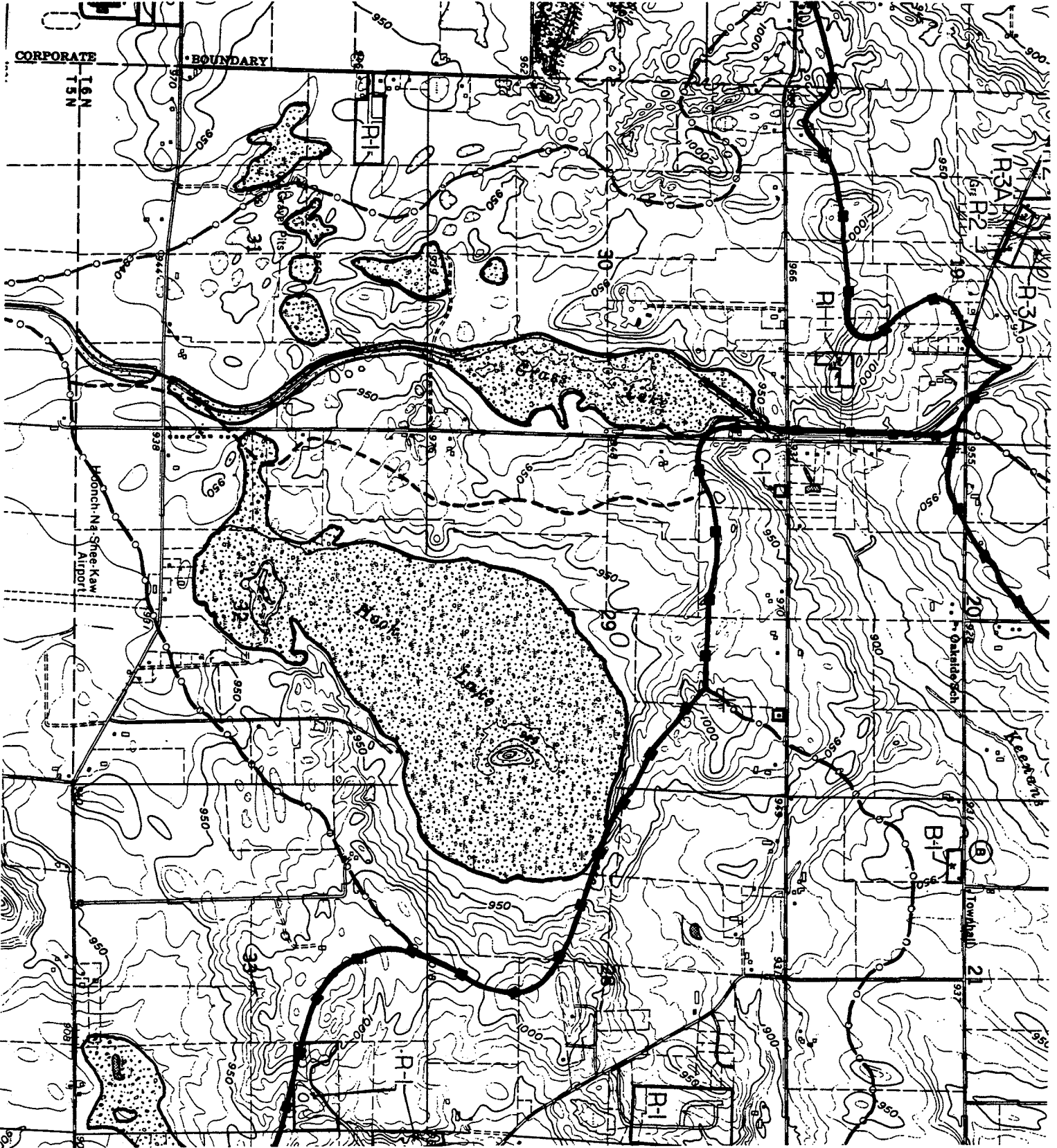


C. GRASS LAKE






Only two small tracts in this area are zoned for residential use, although each is near several other small residential parcels which are zoned for agriculture. Many small parcels in the town are zoned for agriculture because residential development was allowed in the A-1 agricultural district before the town adopted the exclusive agricultural district in 1978.

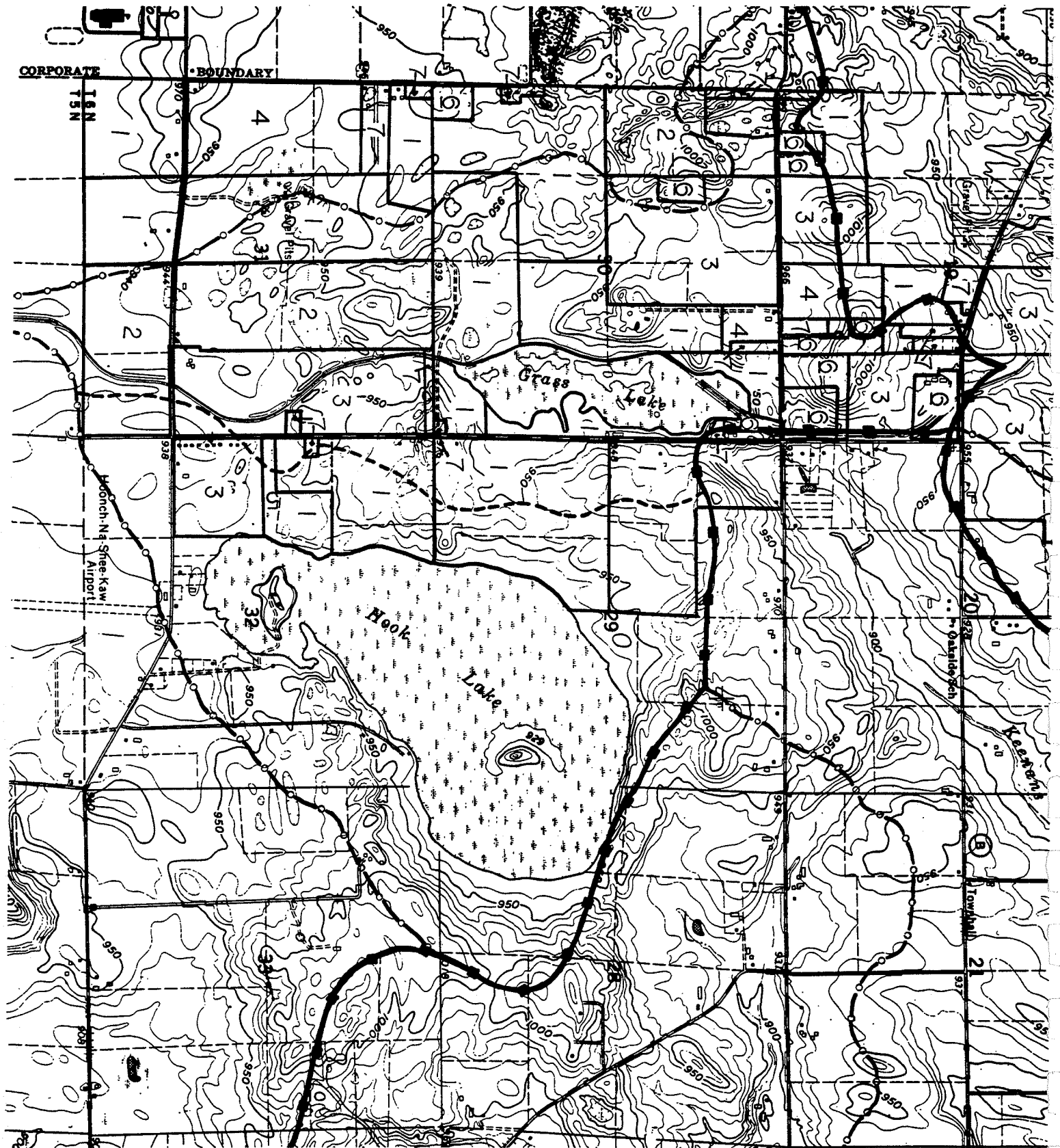
The 100-year flood plain boundaries generally correspond to wetland boundaries, including most of the small kettle hole marshes to the southwest of Grass Lake.



**Zoning,
Flood Plains,
& Sanitary
Sewer
Districts**

 ZONING Boundaries	 100 YEAR FLOOD PLAINS	 SANITARY SEWER DISTRICT Boundaries
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This study area contains a high proportion of owner-operated farm parcels. Most of the small, non-farm parcels found to the north of Grass Lake lie over soils that are steep and of poor agricultural quality. Grass Lake is owned and operated as a fir farm. There is no publicly-owned land in this study area.



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 TO PUBLIC LAND, RECREATION, OR OWNED 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 NON-TOWN RESIDENT
- 9

Grass Lake is the town's only deep water marsh. It contains areas of both open water and emergent aquatic plants. Many species of both surface feeding and diving ducks use this marsh during migrations. Several small Kettle hole marshes are found to the south of Grass Lake.

The following includes a brief description of the woodlots surveyed in Study Area C:

C1—Rating, fair; Size, 9 acres

This woodlot is a pine plantation.

C2—Rating, fair; Size, 16 acres

This woodlot contains dry hardwood species, a dense honeysuckle invasion and a mixed age stand of trees. Shrubs and ground vegetation are sparse since grazing damage is heavy. Steep to moderate slopes are present.

C3—Rating, excellent; Size, 31 acres

This woodlot contains typical dry hardwood species, a mixed age stand of trees, and a small red pine plantation. The woodlot lies adjacent to Grass Lake, has oak ridges and a hill with a vista. Slopes are moderate to steep.

C4—Rating, good; Size, 6 acres

This woodlot contains typical dry hardwood species, a mixed age stand of trees and a sparse honeysuckle invasion. The woodlot is generally in good health and in near natural condition.

C5—Rating, good; Size, 31 acres

This woodlot contains dry hardwood species, a medium honeysuckle invasion and a mixed age stand of trees. Density of tree and shrub growth is rather sparse, indicating the presence of grazing.

C6—Rating, good; Size, 25 acres

This woodlot contains typical dry hardwood species, and a mixed age stand of trees. The woodlot is heavily grazed, causing a sparse vegetative growth. A wetland is present adjacent to the western margin of the woodlot.

C7—Rating, fair; Size, 10 acres

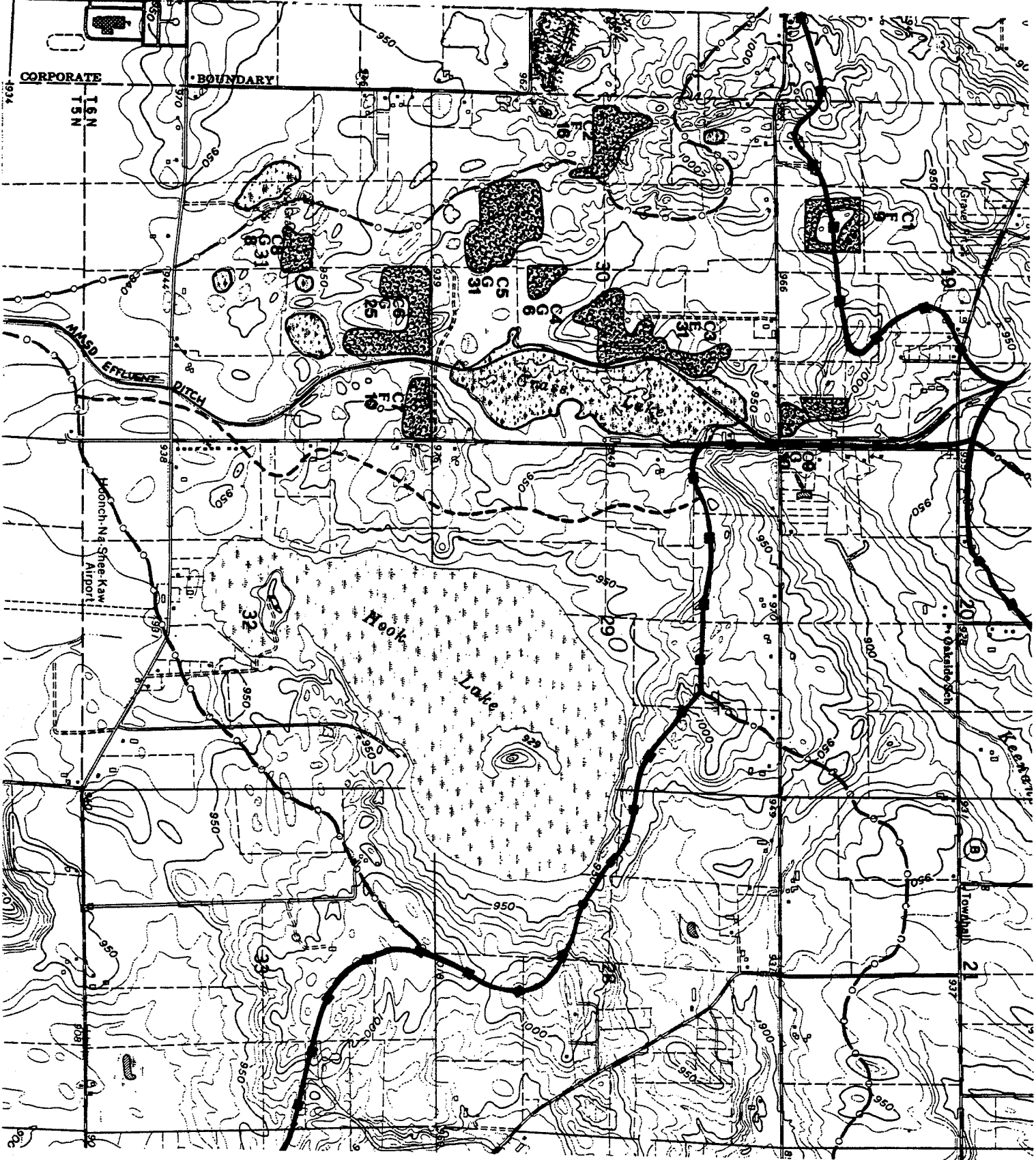
This woodlot contains dry hardwood species and a sparse honeysuckle invasion. The age of the woodlot is even, consisting of middle-aged trees, and tree and shrub layer density is sparse. This indicates the disturbed nature of the woodlot due to grazing damage.

C8—Rating, good; Size, 8 acres

This woodlot contains dry hardwood species, a sparse to dense honeysuckle invasion and a mixed age stand of trees. Vegetative growth is sparse due to heavy grazing damage. Slopes are moderate and wetlands are located east and west of the woodlot.

C9—Rating, good; Size, 10 acres

This woodlot contains typical dry hardwood species, and has a mixed age stand of trees. Near natural conditions prevail, slopes are moderate to steep, and ridge tops and ravines are present. A good regeneration of trees is occurring.
Little is known about the archaeological history of this area. Early surveys concentrated primarily on the Lake Waubesa and Lake Kegonsa areas.



Environmental and Historical Resources

 Wetland Ecosystem

 Woodlots

B10 FIELD SURVEY SHEET NUMBER

E WOODLOT QUALITY CATEGORY

55 WOODLOT SIZE, IN ACRES

WOODLOT QUALITY CATEGORIES

E EXCELLENT

G GOOD

F FAIR

SECTIONS CONTAINING KNOWN ARCHAEOLOGICAL SITES: 29 32

The lack of distinct drainage lines into Grass Lake shows that little runoff pollution is entering this wetland. Steep slopes near Grass Lake, especially those in wooded areas, pose a potential erosion problem.

Because of porous soils and this area's location on the glacial moraine, the drainage system in this study area is poorly developed. This means that most overland runoff either

sinks into the soil as it moves, or finds its way to numerous small kettle holes found in this area.

The irregular hills and slopes in this area are characteristic of moraine topography. The steep slopes along the western edge of Grass Lake could pose an erosion problem if not correctly managed. No springs are found in this vicinity, as it serves primarily as an aquifer recharge area.

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+

6. Provision of Recreation Opportunities
Fishing (in or adjacent to study area)
Hunting and Trapping P

7. Education and Spiritual Enrichment
Formal and Individual Education P

8. Historic and Cultural Sites and Settings
Spiritual Enrichment P

9. Community Separation
Settlement and Cultural Sites and Settings P

10. Property Value Enhancement P

1. Natural Systems Preservation

Feeding Habitat P₊

Nesting/Resting/Breeding Burrow Habitat P₊

Wintering/Migratory Habitat (Waterfowl) P

Movement Corridors P

Plant and Animal Diversity P

Scientific Research (P)

2. 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 R

3. Surface Water Quality Protection

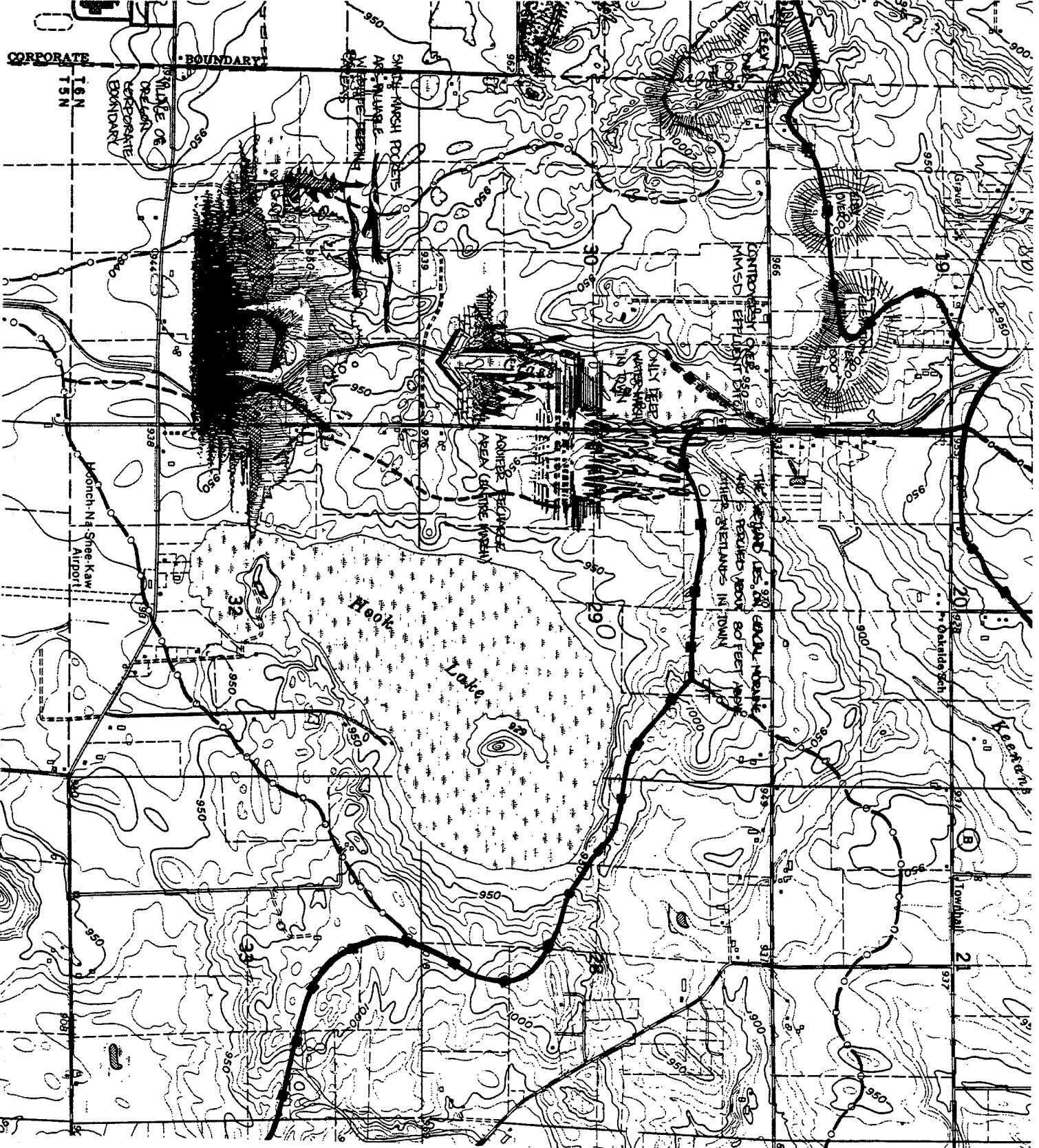
Nutrient and Sediment Control

4. Non-Structural Flood Control

Protection of 100-Year Floodplain P

Major Highlights

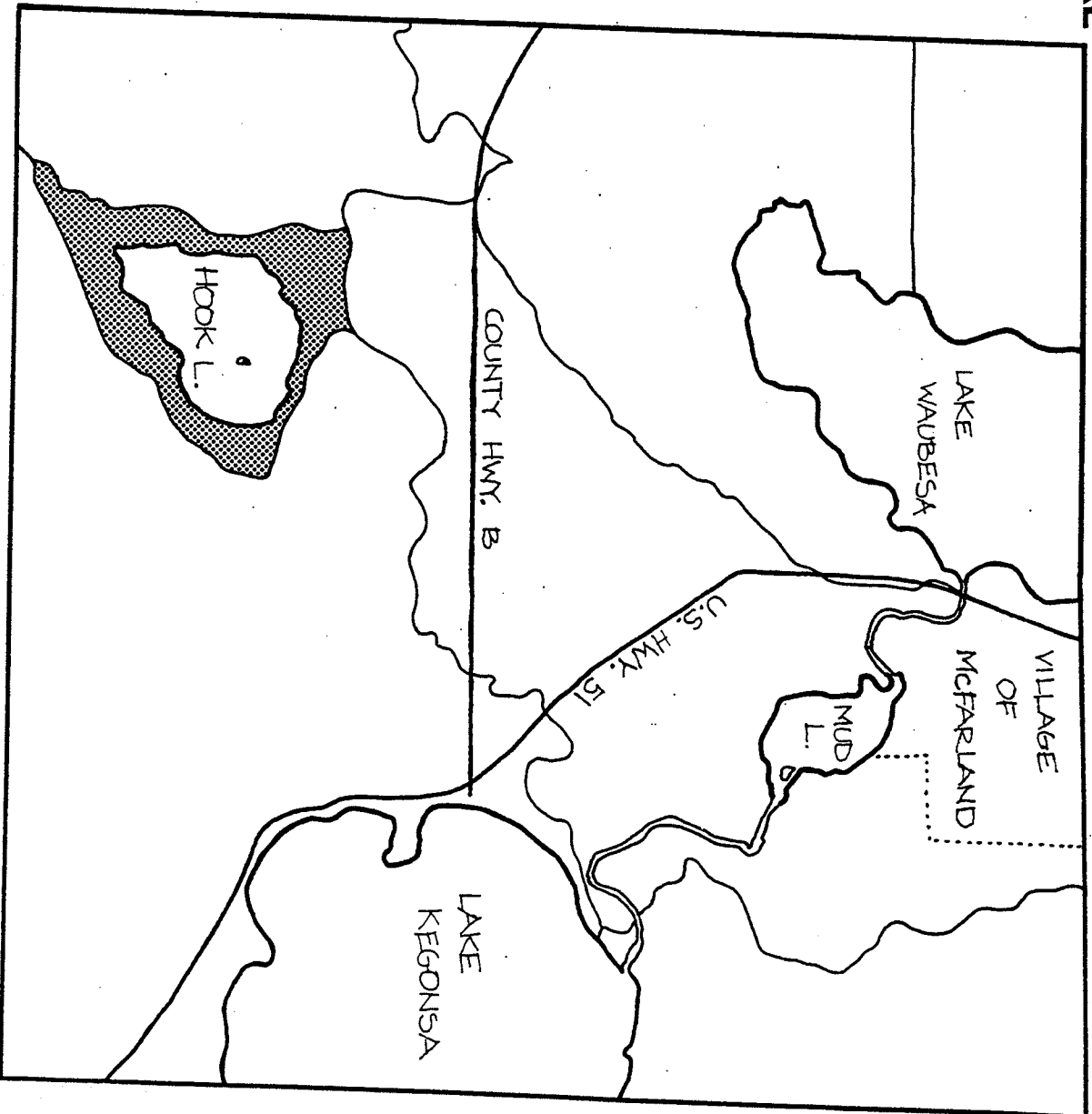
The northern edge of this area contains some of the highest land in the town. Three hilltops have an elevation greater than 1,000 feet. Grass Lake is the only deep water marsh in the town, and thus has some plant and animal species that are not common to other areas. The MMSD drainage ditch, which runs along the west shore of Grass Lake, continues to be the focus of surface water and groundwater quality concerns. The small kettle holes to the southwest of Grass Lake are valuable wildlife feeding and watering areas. They are especially popular with ducks and shorebirds. Grass Lake, with its wooded background, provides a pleasant view for people traveling along Sandhill Road. The woodlot and wetland pattern could be used as a community separation buffer if Oregon were to expand this way in the future. However, the new highway bypass appears to be a more sensible place for Oregon to stop growing in an eastern direction. If significant development occurred east of the bypass new interchanges may be needed and this area would be largely cut off from the rest of the village.



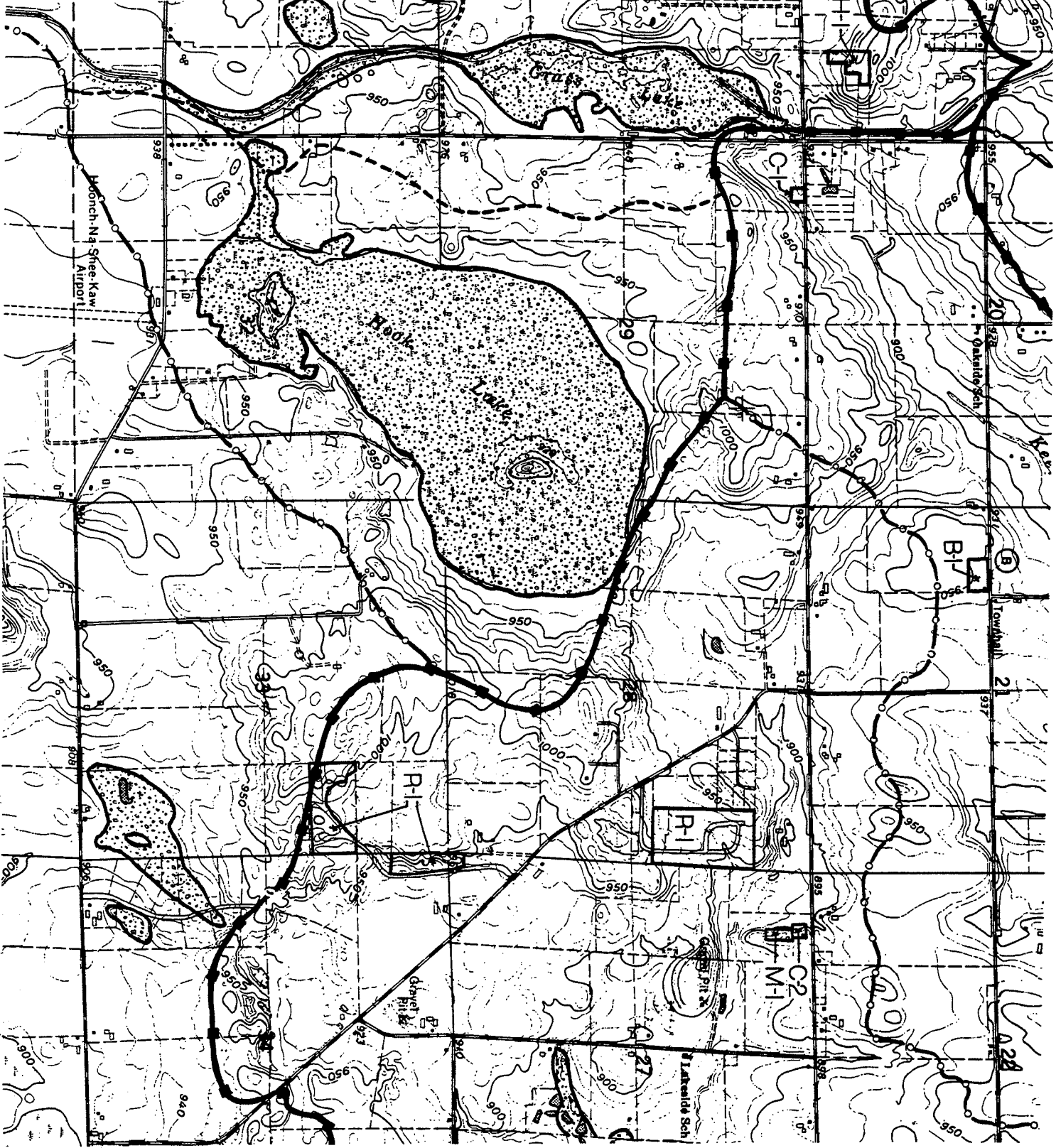
**Functional
Analysis**






D. HOOK LAKE



Currently, all the land in the Hook Lake study area is part of the exclusive agricultural zoning district. The boundary of the 100-year flood plain closely corresponds with the boundary of Hook Lake, with the addition of most of the property owned by the Oregon Sportsmen's Club.

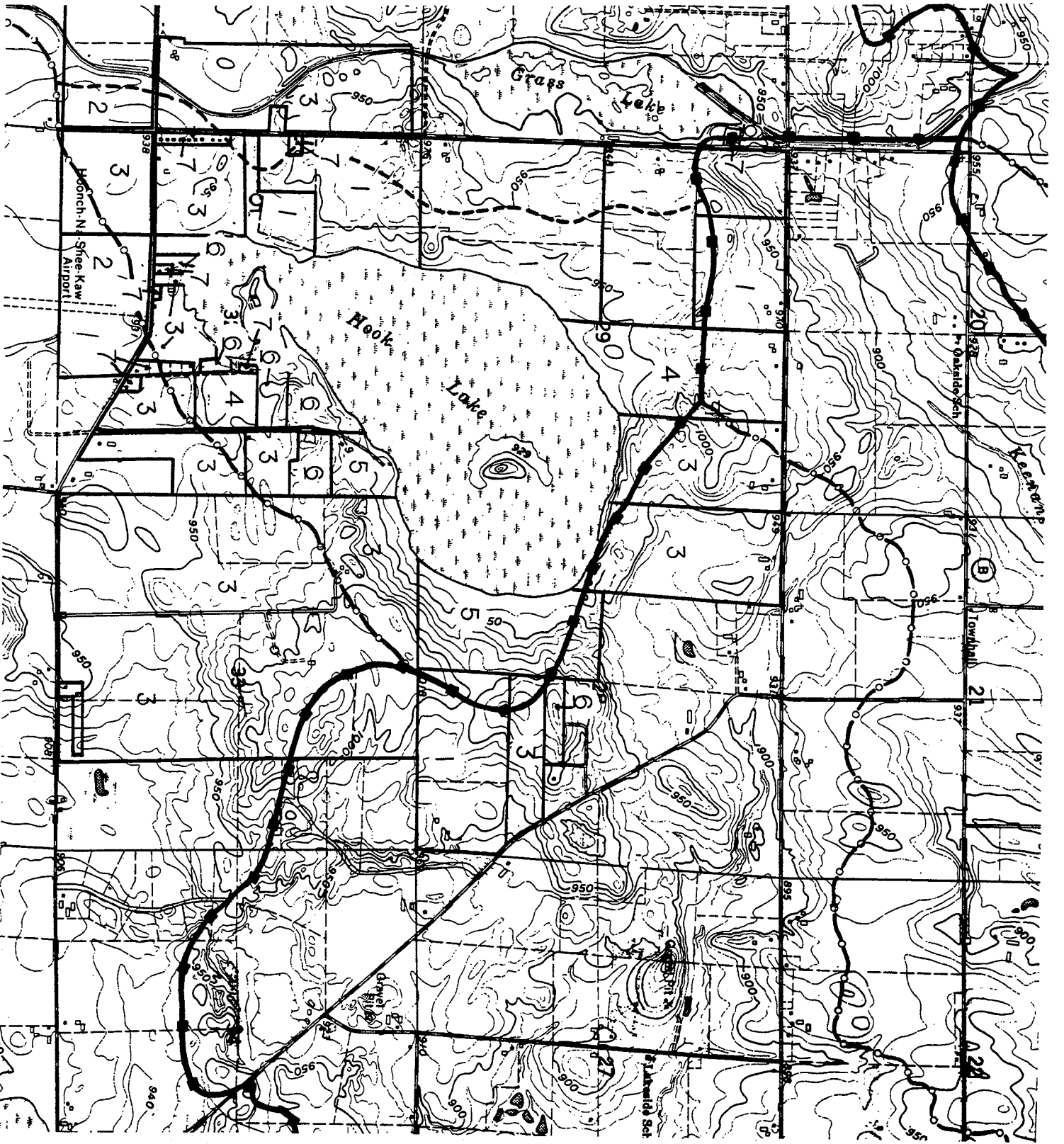


Zoning, Flood Plains, & Sanitary Sewer Districts

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

In this study area, small lot development is found to the south and southwest of Hook Lake. Further small lot development in this area could begin to reduce the natural and aesthetic values of Hook Lake. The Department of Natural Resources owns the large parcel on the east shore of the lake. Improved access or park development is not being considered at the present time. The Oregon Sportmen's Club maintains a trap shooting and

clubhouse facility adjacent to the southwest shore of the lake. The Madison Retriever Club uses its facility on the southeast shore of the lake to train hunting dogs. Most of the rest of the perimeter of the lake is in relatively stable ownership and use situations with the possible exception of the parcel in ownership category 4 located on the north-northeast end of the lake.



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, SHEPHERD COMPANY, OR CANNING COMPANY.
- 4 LAND OWNED BY NON-RESIDENT OF TOWN, TILLABLE LAND LEASED.
- 5 PUBLIC LAND, RECREATIONAL LAND, OR OWNED BY A NON-PROFIT GROUP.
- 6 LARGE LOT RESIDENTIAL LAND, PARCELS GREATER THAN FIVE ACRES.
- 7 SMALL LOT RESIDENTIAL LAND, PARCELS SMALLER THAN FIVE ACRES.
- 8 NON-FARM, NON-RESIDENTIAL PARCELS, OWNED BY TOWN RESIDENT.
- 9 NON-FARM, NON-RESIDENTIAL PARCELS, OWNED BY NON-TOWN RESIDENT.

Hook Lake is the only bog of its type in southern Wisconsin. It is one of only three bogs in Dane County, and the only one still in excellent condition. The lake's vegetation is almost completely native and includes many species uncommon in this area. The diversity of the vegetation offers an excellent variety of habitat for wildlife. See the appendix volume of this report for more information concerning the area's vegetation and wildlife.

The woodlots in this area are all rated as excellent partially due to their relationship to Hook Lake, and partially because they are in relatively good condition when compared to other woodlots in the town. The following is a brief description of the woodlots surveyed in Study Area D:

D1—Rating, excellent; Size, 56 acres

This woodlot contains typical dry hardwood and lowland species, a dense honeysuckle invasion and a mixed age stand of trees. Physical disturbances to the woodlot are minimal as grazing and logging were discontinued more than 15 years ago. Oak wilt is present. Hook Lake borders the southern edge, ridgetops and moderate to steep slopes are present.

D2—Rating, excellent; Size, 8 acres

This woodlot contains typical dry hardwood species, a moderate invasion of honeysuckle and a mixed age stand of trees. Damage due to grazing discontinued ten years ago, and oak wilt is present. Hook Lake lies adjacent to the woodlot.

D3—Rating, excellent; Size, 10 acres

This woodlot contains typical dry hardwood species and is a mixed age stand of trees, although it is dominated by young trees. Storm damage is apparent with an abundance of dead and fallen limbs and trees present. Hook Lake lies adjacent to the east margin of the woodlot.

D4—Rating, excellent; Size, 15 acres

This woodlot contains typical dry hardwood, lowland and some planted pine species, a sparse honeysuckle invasion and a mixed age stand of trees. Slopes are moderate and well stabilized. The black and red oaks present are very old and the woodlot is presently rejuvenating itself. This woodlot is surrounded on three sides by Hook Lake.

D5—Rating, excellent; Size, 46 acres

This woodlot contains typical dry hardwood and lowland species, a sparse honeysuckle invasion and a mixed age stand of trees. Grazing stopped in 1960. The woodlot is presently rejuvenating itself. Slopes are of moderate steepness and Hook Lake lies adjacent to the western border of the woodlot.

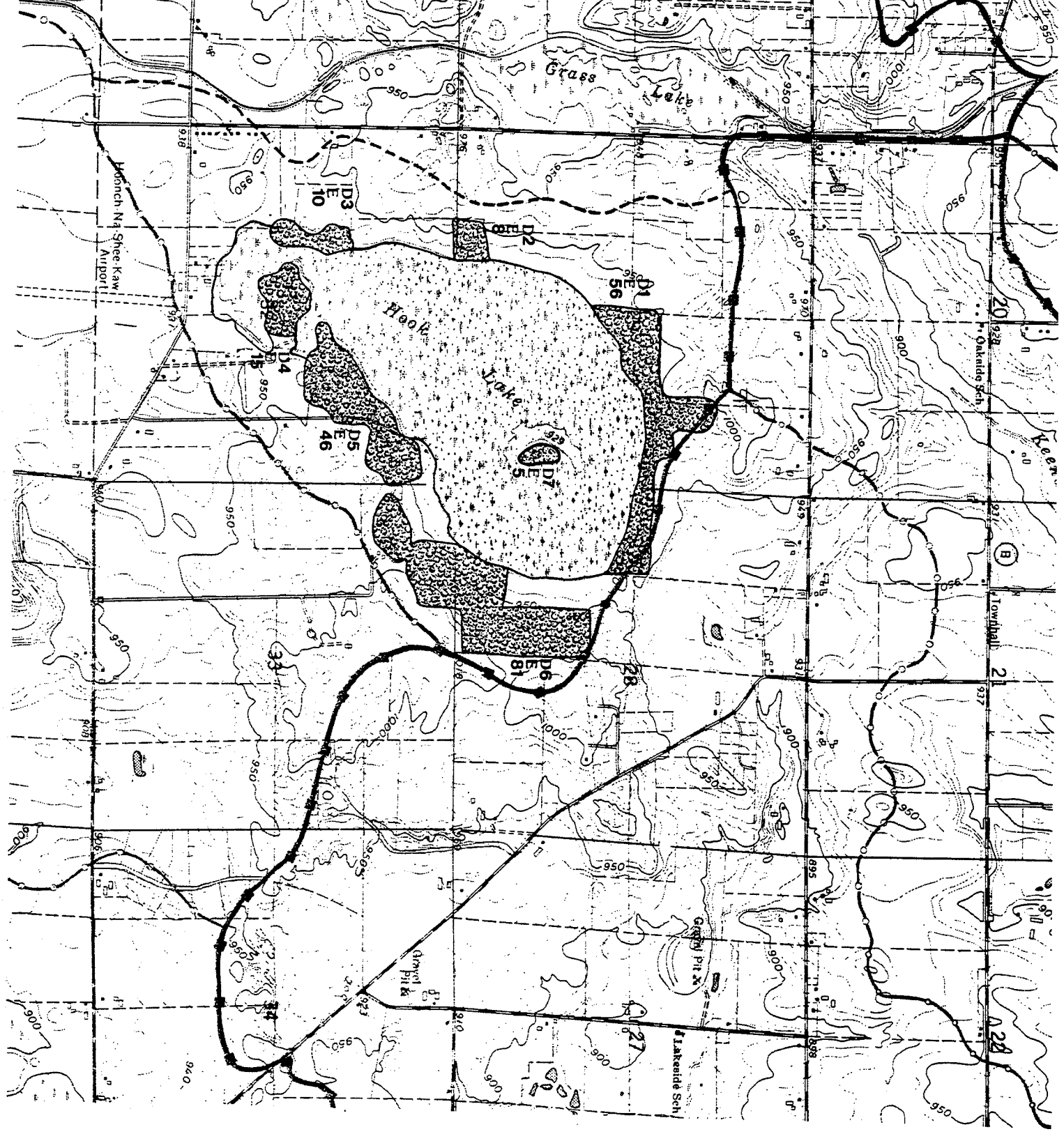
D6—Rating, excellent; Size, 51 acres

This woodlot contains typical dry hardwood species, a dense honeysuckle invasion and a mixed age stand of trees. Slopes are gentle to steep and Hook Lake is adjacent to the woodlot on its west side. Sandhill cranes are known to nest and feed in this area. Physical disturbances to the woodlot are minimal.

D7—Rating, excellent; Size, 5 acres

This woodlot contains typical dry hardwood and lowland community species, and a mixed age stand of trees. However, very few young trees are present. This is a wooded island located at the north end of Hook Lake.

The location of one Indian mound is known in the northern part of this study area. The character of this area would indicate that additional sites may be located by a modern archaeological survey.



Environmental and Historical Resources

 Wetland Ecosystem

 Woodlots

B10 FIELD SURVEY SHEET NUMBER
E HOODLAK QUALITY CATEGORY
55 HOODLAK SIZE, IN ACRES

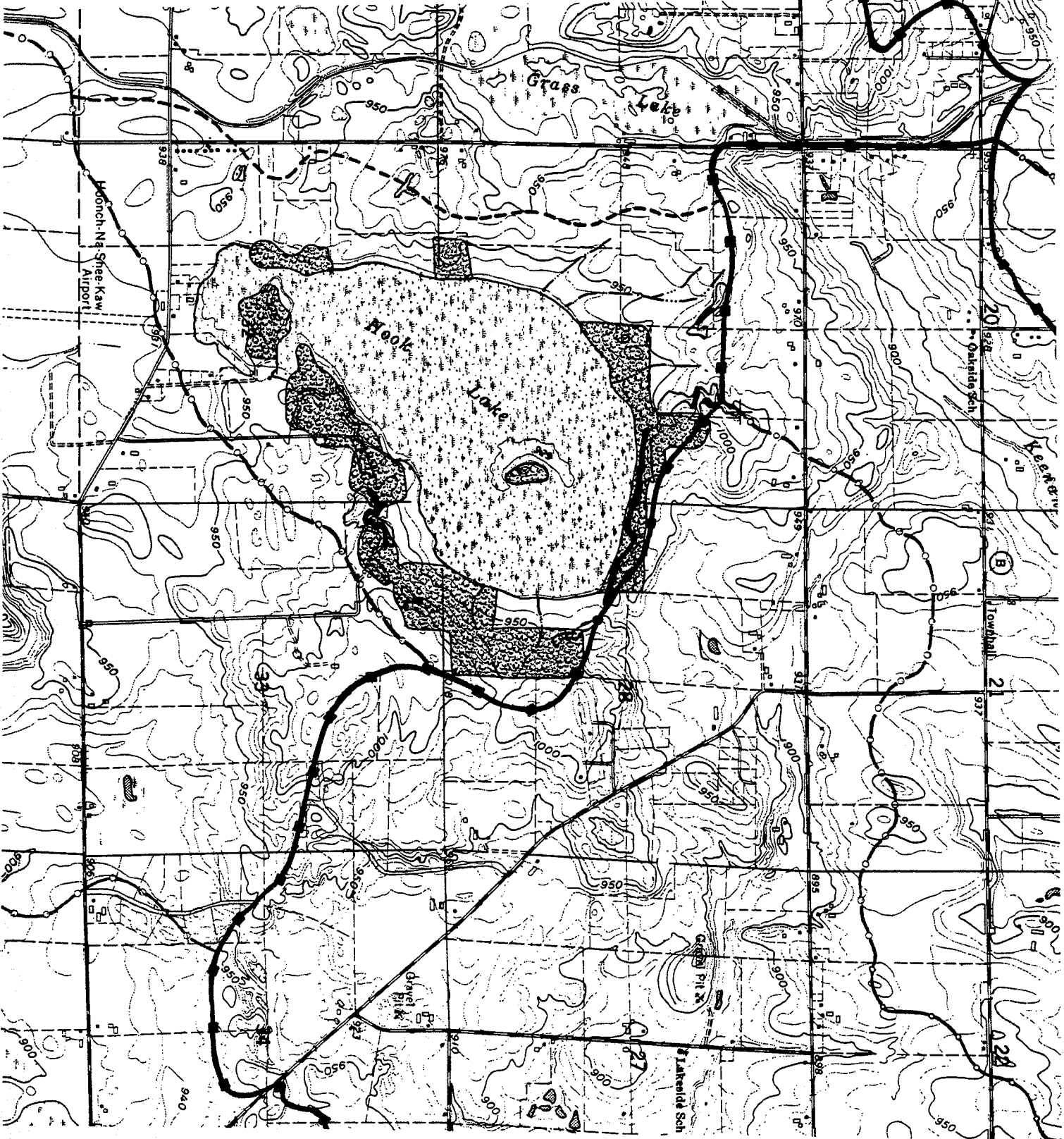
HOODLAK QUALITY CATEGORIES
E: EXCELLENT
G: GOOD
F: FAIR

*CATINGS CONTAINING HODDY ANTHROPOGENIC SITES: 28 29 30










Hook Lake is located within a small internal drainage basin. This means that no surface drainage leaves the site. Because Hook Lake's drainage area is small and consists primarily of agricultural uses or natural vegetation, the quality of the water in Hook Lake is high. There is no appreciable flow from the surrounding groundwater into the lake. These conditions combine to make Hook Lake a soft

water lake, rare in southern Wisconsin. Future significant use of concrete, concrete rubble or other alkaline materials in this area should be avoided due to their potential effect on the lake's water chemistry. Together with Grass Lake, Hook Lake appears to be located in a broad groundwater recharge area for the Waubesa Wetlands and Lower Mud Lake.

This overlay shows areas where the combination of woods and steep slopes would be especially sensitive to land use changes. Because of the small drainage area around Hook Lake, most potential upland land use impacts would occur on parcels owned by people whose land is adjacent to the lake. Hopefully, their interest in the integrity of this valuable resource which they share will result in appropriate uplands use.



Environmental System Overlay

-  WETLAND ECOSYSTEM
-  HOODLOT
-  SPRING
-  PONDLED SPRING
-  GROUP OF SPRINGS
-  STEEP TOPOGRAPHY
-  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

5. Maintenance of Groundwater System

(P)=future potential for function in area

Aquifer Recharge (Quality and Quantity) P₊

1. Natural Systems Preservation

Aquifer Discharge (Quality and Quantity)

Feeding Habitat P₊

6. Provision of Recreation Opportunities

Nesting/Resting/Breeding Burrow Habitat P₊

Fishing (in or adjacent to study area)

Wintering/Migratory Habitat (Waterfowl) P

Hunting and Trapping P₊

Movement Corridors P

Water Recreation (in or adjacent to study area)

Plant and Animal Diversity P₊

Picnic & Play Grounds (P)

Scientific Research P₊

Corridors for Walking, Hiking, Skiing, Etc. P

2. Aesthetic Quality Preservation

Wild Food Gathering P₊

High Visual Quality From Roadides P

7. Education and Spiritual Enrichment

High Visual Quality Within Marsh and Stream Areas P₊

Formal and Individual Education P₊

Long Distance Views and Vistas P

Spiritual Enrichment P₊

Acoustic Isolation P₊

8. Historic and Cultural Sites and Settings

3. Surface Water Quality Protection

Archeological Sites and Settings P

Nutrient and Sediment Control

Settlement and Cultural Sites and Settings P

4. Non-Structural Flood Control

9. Community Separation

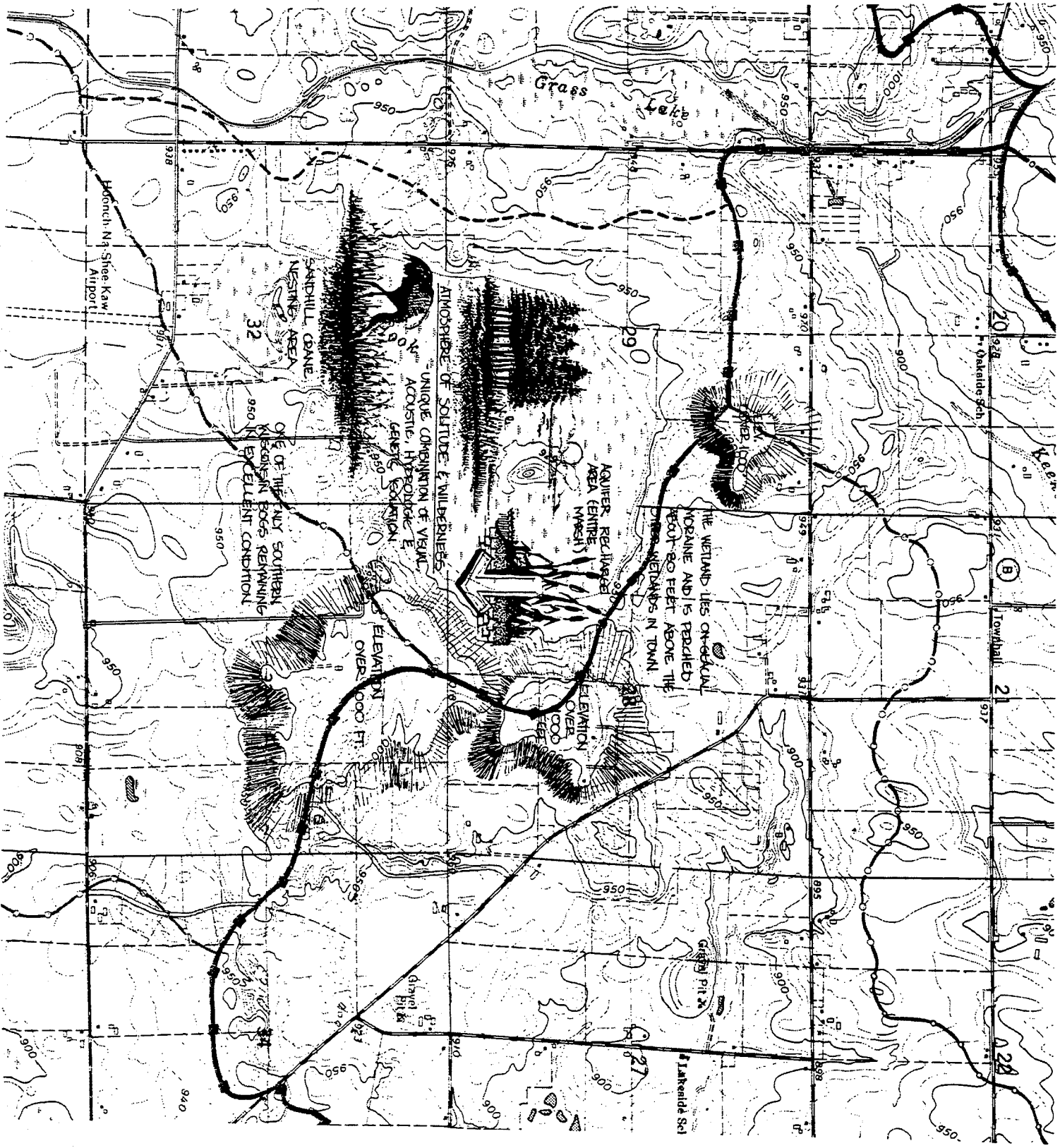
Protection of 100-Year Floodplain P

10. Property Value Enhancement P

Major Highlights

Hook Lake contains a rare combination of visual acoustic, hydrologic and genetic isolation. One can stand almost anywhere on the shore of the lake and see almost no sign of human activity. Because this study area is shaped like a dish and elevated above the surrounding terrain, most noise from the surrounding landscape is screened out. As mentioned previously, Hook Lake has an uncommon soft water chemistry, which supports a large number of plant species not found elsewhere in this part of the state. Because the study area boundaries around Hook Lake are relatively close to the lake, the effects of land use changes in adjacent areas should be reviewed for their effects on Hook Lake. Wildlife corridors should be maintained between this and other natural areas in the vicinity. Also, because the skyline extends beyond the study area in several places, aesthetic effects of land use changes in adjacent areas should be considered. The appendix volume of this report includes a map of the approximate skyline around Hook Lake.

As with the Grass Lake area, little is known about the archaeological resources in this area, although sites are known to exist here.



Functional Analysis

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