

Sites Committee



OLD TAPPAN BOROUGH
MASTER PLAN STUDY

Report 2

- * Land Use Element
- * Traffic Analysis
- * Community Facilities - Schools

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Boorman and Dorram, Inc., Planning Consultants

December 1978

OLD TAPPAN BOROUGH, NEW JERSEY

1978

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OLD TAPPAN MASTER PLAN STUDY

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"In the past ten years, however, zoning policy has become a national issue . . . "Exclusionary Zoning" has become a catchword and the issue has been and is being litigated in a score of state and federal courts with inconclusive results. In the legislatures, a few states are beginning to re-assess the wisdom of the delegation, five decades ago, of all authority to municipalities. Widespread use of a variety of discretionary zoning techniques has pushed aside much of Euclidean zoning until the process increasingly resembles a form of licensing."

From: Billboards, Glass Houses, and the Law, by Richard F. Babcock, 1977.

I. INTRODUCTION

All of us, including Old Tappan Borough and its residents found ourselves one clear day embroiled and thrust in the midst of a State, nay, Nationwide controversy on Exclusionary Zoning, as so aptly described in the above quote by Dick Babcock, the nation's most widely read zoning lawyer. To remedy the situation, New Jersey took a progressive and bold step forward in adopting, after many years of bitter argumentation, its new Municipal Land Use Law. Under Article 8, C 40:55D-62 this law provides as follows:

"Power to zone: The governing body may adopt or amend a zoning ordinance relating to the nature and extent of the uses of land and of buildings and structures thereon. Such ordinance shall be adopted after the planning board has adopted the land use

plan element of a master plan and all of the provisions of such zoning ordinance or any amendment or revision thereto shall either be substantially consistent with the land use plan element of the master plan or designed to effectuate such plan element . . ."

The thrust of this provision is in plain language , that from hereon the law requires that zoning ordinances be founded on a Land Use Plan. Since such a plan cannot ordinarily be prepared out of context without the other portions of a master plan, it means in effect, that as of now, zoning ordinances must be based on master plans. In order to comply with the provisions of the law, Old Tappan Borough commenced with the preparation of its Master Plan which will be in conformance with the various requirements of the new Land Use Law.

This report is the second of three volumes contemplated under this Master Plan. It contains the inventory or research studies and their findings on land use, physical characteristics, and traffic. It is the purpose of this study to provide the factual basis for the forthcoming Summary Master Plan report, which will present the various plans and recommendations including among others proposals for subsequent zoning amendments.

Because of the urgency for ordinance preparation an interim Preliminary Land Use Plan will also be prepared.

*

It is the finding of this study that Old Tappan Borough is not a "developing community!"

*

II. PHYSICAL CHARACTERISTICS

This chapter presents an inventory of past trends and characteristics of soils and geology as pertinent to Land Use planning.

HISTORY *

The first land grant known as a "patent", purchasing Indian rights, was obtained by three Dutch farmers from Manhattan Island on March 17, 1682 for their growing families. The purchasers were Jan (John) Pietersen Haring, Adriaen Lambertston Smidt, and Huybert Gerritsen Blauvelt, and the sellers were the Tappan Indians.

The Old Tappan of 1682 was a much larger area than the present Borough, and included lands west of present-day Piermont and Nyack. When the Tappan settlers bought the Indian rights, they were granted a patent (the Tappan Patent) by the Colony of New York. For about twenty years the lands of Tappan were held in common. The settlers first divided the land among themselves in 1704. The owner of each share received a deed in which the other patent holders signed away their rights. The Blauvelts, the Harings, and Smidts were the leading families of the Tappan patent.

During the colonial years, New York and New Jersey disputed over the boundaries. In 1769 commissioners appointed by the King decided on the present boundaries. The settlement of the New York - New Jersey boundary cut off Old Tappan from the connection with Orange County and the Colony of New York, and it became part of New Jersey.

* Environmental Assessment Report, by Woodward-Clyde, November 1976.

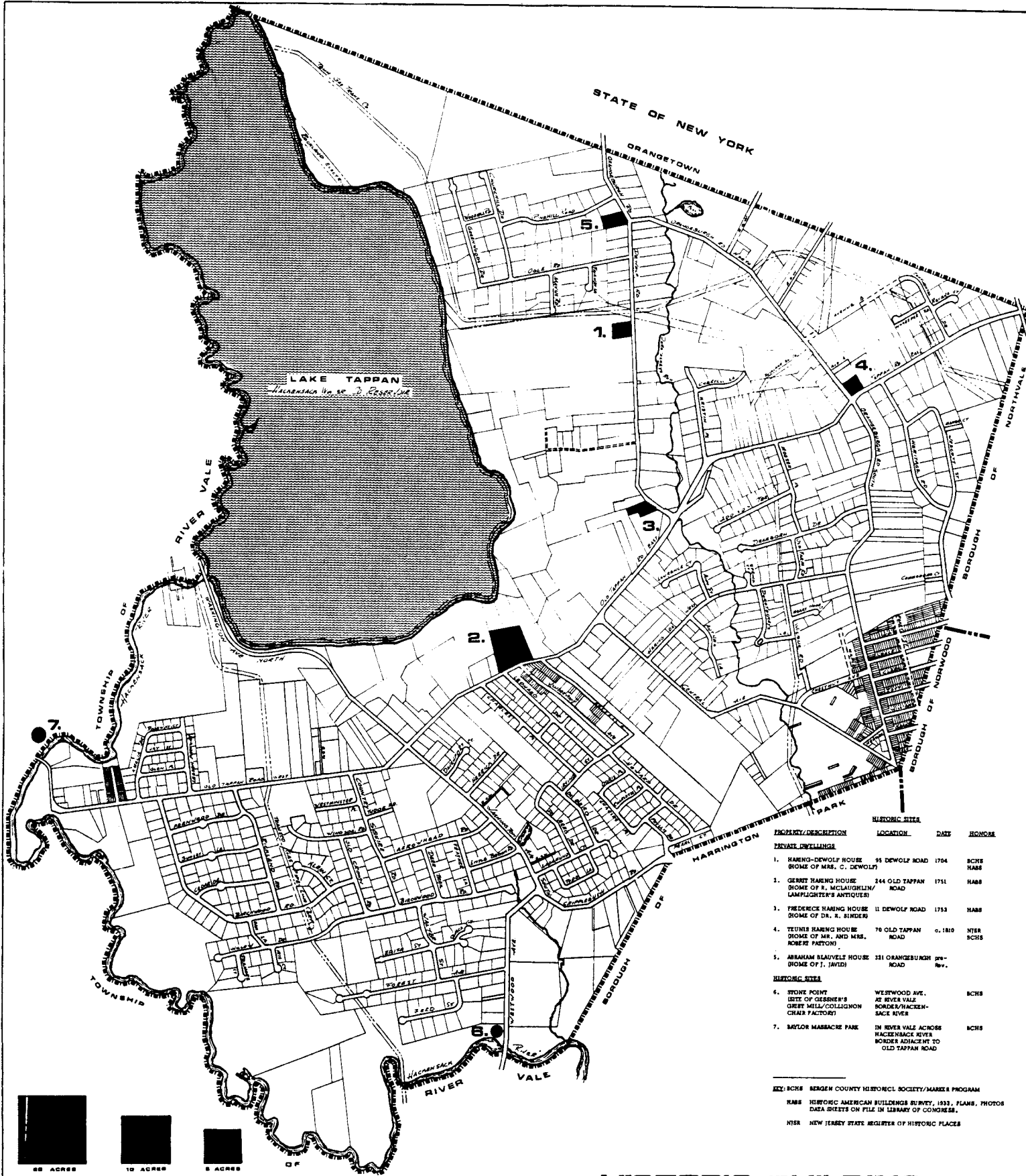
Old Tappan joined others in a petition for the formation of a new Township (the Township took in a large portion of northern Bergen County, known as Harrington Township). Old Tappan was to be part of Harrington Township for 119 years, until 1894, when the Borough's Acts was passed, eliminating large township school districts in New Jersey.

Historic Private Dwellings

Early Old Tappan structures of historic significance as illustrated on Exhibit No. 19 following include:

- A. Haring-DeWolf House, 95 DeWolf Road, adjacent to the Old Tappan Golf Course in Old Tappan. This house is a private residence. It was built about 1704 by Cosyn Haring, one of the sixteen Tappan patentees. It is an example of early Dutch Colonial architecture found in the Hackensack valley. This house has never been deeded to anyone, having been in the same family, in 1964 for 260 years. It was the birthplace and home of John H. DeWolf, the first mayor of Old Tappan.
- B. The Gerrit Haring House (1751) is the home of R. McLaughlin, Lamplighter's Antiques at 244 Old Tappan Road and is across from the present Borough Hall.
- C. The Frederick Haring House (1753) is the home of Dr. Binder at 11 DeWolf Road near the corner of Old Tappan Road and DeWolf Road.
- D. Teunis Haring House is the home of Mr. and Mrs. Robert Patton at 70 Old Tappan Road. Erected about 1810 on the site of an earlier house, the brick and sandstone center section is Dutch Colonial-style, with wings added c. 1820-1875. It was the homestead of Teunis Haring, a farmer and Chosen Freeholder of Bergen County. Later owned by son John T. Haring, also a Freeholder, it was occupied by the family for 100 years. Silent motion pictures were produced here around World War I; later it was the "300 House" tavern.

STATE OF NEW YORK
ORANGETOWN



PROPERTY/DESCRIPTION	LOCATION	DATE	HONOR
HISTORIC SITES			
PRIVATE DWELLINGS			
1. HARRING-DEWOLF HOUSE (HOME OF MRS. C. DEWOLF)	95 DEWOLF ROAD	1704	SCBS
2. GERRY HARRING HOUSE (HOME OF R. McLAUGHLIN/ LAMPLIGHTER'S ANTIQUES)	244 OLD TAPPAN ROAD	1751	HABS
3. FREDERICK HARRING HOUSE (HOME OF DR. R. BINDER)	11 DEWOLF ROAD	1753	HABS
4. THOMAS HARRING HOUSE (HOME OF MR. AND MRS. ROBERT PATTON)	76 OLD TAPPAN ROAD	c. 1810	NTSR SCBS
5. ABRAHAM BLAUVELT HOUSE (HOME OF J. JAY)	231 ORANGETOWN ROAD	1840	SCBS
HISTORIC SITES			
6. STONE POINT (SITE OF GERRARD'S GRIST MILL/COLLEGE CHAIR FACTORY)	WESTWOOD AVE. AT RIVER VALE BOROUGH/HACKEN- SACK RIVER		SCBS
7. BAYLOR MASSACRE PARK	IN RIVER VALE ACROSS HACKENBACK RIVER BORDER ADJACENT TO OLD TAPPAN ROAD		SCBS

SCBS: BERGEN COUNTY HISTORICAL SOCIETY/MANAGER PROGRAM
HABS: HISTORIC AMERICAN BUILDINGS SURVEY, 1932, PLANS, PHOTOS
DATA SHEETS ON FILE IN LIBRARY OF CONGRESS
NTSR: NEW JERSEY STATE REGISTER OF HISTORIC PLACES

HISTORIC BUILDINGS & SITES

BOROUGH OF OLD TAPPAN
BERGEN COUNTY, NEW JERSEY

SCALE: 1" = 500'

1978

BOORMAN & DORRAN, INC. CONSULTANTS

19



REV 11/8/78
REV 10/8/78
REV 10/13/78
REV 10/13/78
REV 10/13/78

SOURCE:

BOROUGH OF OLD TAPPAN, BOROUGH HISTORICAL, 10/13/78.

- E. Abraham Blauvelt House (pre-Rev.) is the former Roeloff VanHouten House now the home of Mr. J. David at 321 Orangeburg Road.

Historic Sites

- F. The Stone Point is west of Westwood Avenue and south of Forest Avenue at the Hackensack River bridge, Old Tappan. As early as 1704 this area of the Tappan Patent was called the "steen" or "Stone" point, later Stony Point. It was commonly known by that name for over 150 years. A grist mill was built here in 1725, fifty years before the American Revolution. For over a century, it ground grain from the Old Tappan farmland. In 1857 Nicholas and Claudius Collignon established a large chair factory on this site. Their specialty was the manufacture of folding chairs.
- G. Baylor Massacre Park, River Vale and Red Oak Roads, River Vale, abutting Old Tappan. In memory of American soldiers killed during the Revolutionary War in the "Baylor Massacre" on September 28, 1778. Lt. Col. George Baylor's 3rd Regiment of Continental Dragoons took quarters for the night on several nearby farms. Tories betrayed their presence to a British force, who surrounded the Dragoons during the night. A number of Americans were killed or wounded after they had surrendered. (Bergen County Historical Society, 1972).

WATER

The Borough of Old Tappan lies entirely within the Hackensack River Watershed. The Hackensack River constitutes the westerly and southwesterly boundaries of the Borough. The western portion of the Borough drains into either Lake Tappan or directly into the River below the reservoir. The eastern portion of the Borough is drained principally by Dorotockey's Run, a small tributary which ultimately flows into the Oradell Reservoir.

Lake Idlewild, a small lake located off Orangeburgh Road is situated on the property of the Idlewild Country Club on the west side of the above mentioned road near its intersection with Avenue B. Other small and unnamed lakes and ponds are located elsewhere along the Dorotockey's Run tributaries and along the tributaries of the Hackensack River.

TOPOGRAPHY

Exhibit No. 2 entitled, Topography, is a rigidly mounted presentation drawing presented separately. This exhibit has been prepared from a composite of U. S. Geodetic Maps presenting in the center of this exhibit the location of Old Tappan Borough. It can be noted at a glance how Old Tappan is located in the Hackensack River Watershed, and the Hackensack River Valley on predominantly flat lands surrounded by the urbanized or suburban communities of Orangetown, Montvale, Park Ridge, Hillsdale, River Vale, Westwood, Emerson, Harrington Park, Norwood, North Vale, and Orangeburgh.

Within the Borough of Old Tappan topographic variations are not severe. Along the northern side of Old Tappan Road, a chain of hills occur that during Colonial times were known as the "Little Hills" or "Little Mountains".

Maximum elevations range up to about 140 feet above mean sea level. The lower elevations are generally found along the Hackensack River and range as low as 30 feet above sea level. Elevations in most parts of Old Tappan range between 50 to 100 feet.

DEPTH TO BEDROCK

Following Exhibit No. 10 illustrates the geographic location of varying depths to bedrock in Old Tappan, as found by the U. S. Department of Agriculture, Soil Conservation Service surveys. From this diagram one can note that the largest category

STATE OF NEW YORK
ORANGETOWN

LAKE TAPPAN
HACARAENGA WA'AP TO RESERVE

RIVER VALE

TOWNSHIP OF

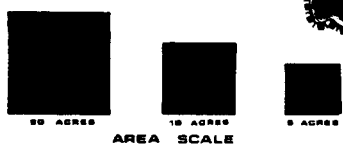
TOWNSHIP

RIVER VALE

HARRINGTON

NORTHVALE

BOURGH OF NORWOOD



AREA SCALE

DEPTH

TO BEDROCK

BOURGH OF OLD TAPPAN
BERGEN COUNTY, NEW JERSEY

SCALE 1" = 500'

1978

BOORMAN & DORRAN, INC. ... CONSULTANTS

SOURCE OF SOILS:
U.S.G.A. SOIL CONSERVATION SERVICE 1974.

REV 10/8/78
REV 10/16/78
REV 10/16/78
SOURCE OF DATA: B.M.
OFFICIAL 10/16/78



5' TO 10'



GREATER THAN 10'



URBAN LAND - TOO VARIABLE
(MOSTLY DEVELOPED)



500 500 0 500 1000
SCALE IN FEET

10

is the lands entitled as Urban Land, because there are mostly already developed areas, where the depths to bedrock, or the bedrock outcroppings are variable. The pattern of shallow bedrock from a depth of five feet through and including ten feet seems to be following the river and brook valleys of the Hackensack River and the Dorotockey's Run valley, with some other minor scattered locations, including the fringe areas of the Lake Tappan Reservoir. Bedrock locations deeper than ten feet include areas that do not represent substantial problems from the planning point of view, and such areas are located at the southern end of the Dorotockey's Run valley on the eastern and southern shores of Lake Tappan and in the southwest corner of Old Tappan Borough.

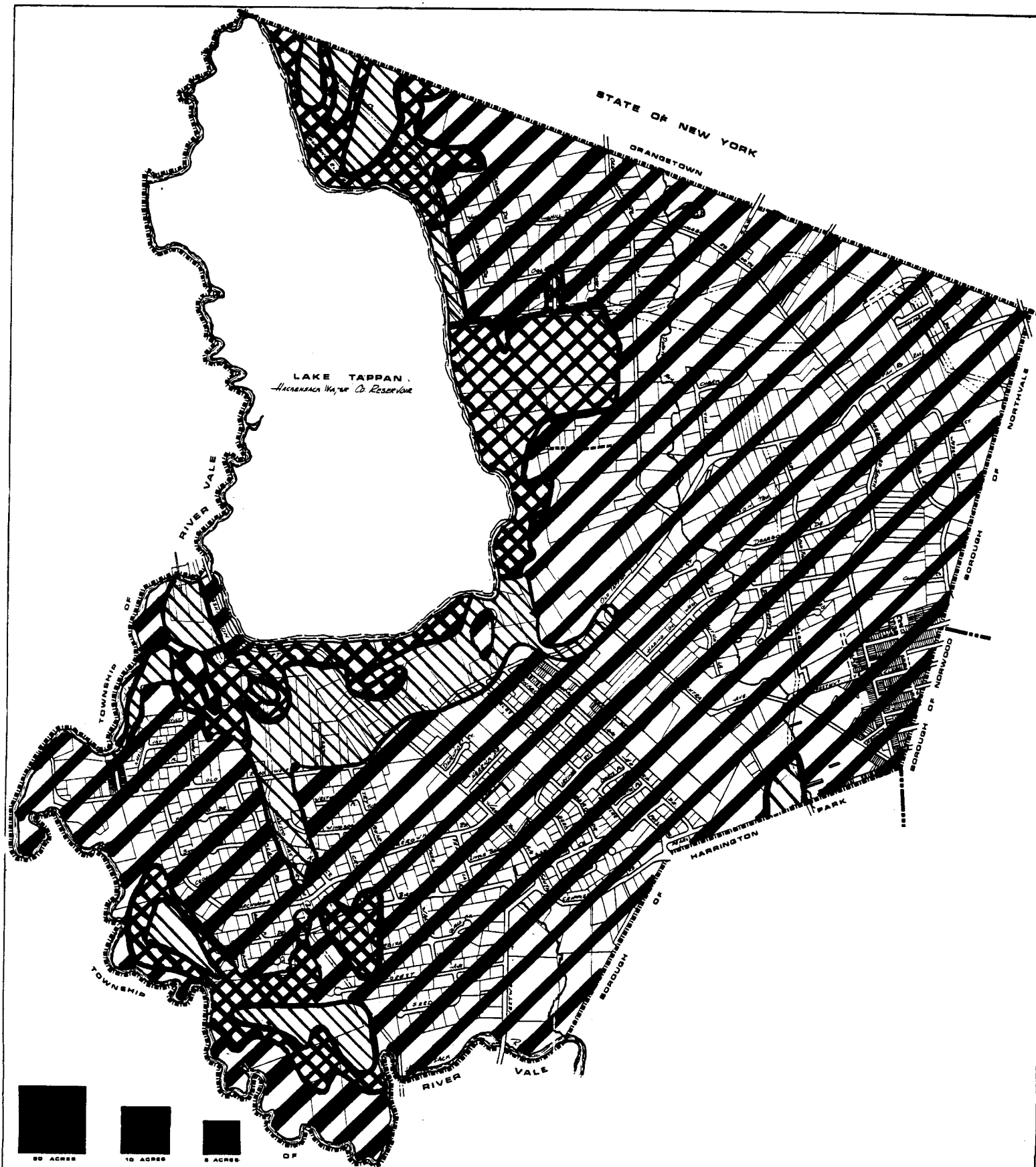
Generally speaking it seems to appear at least based on the findings presented by this diagram, that the shallow depth to bedrock is not a major development problem in Old Tappan Borough.

SUITABILITY FOR SEPTIC DISPOSAL SYSTEMS

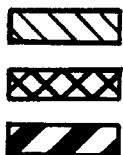
Exhibit No. 9, Suitability for Septic Disposal Systems following is a diagram of soil limitations for septic disposal systems. The source of the data are the U. S. Department of Agricultural Soil Conservation Service soil surveys, whereby soils were classified as having slight, moderate, or severe limitations for absorbing septic effluents.

From an analysis of this diagram one can note that most of the Old Tappan Borough area has severe limitations for accomodating septic disposal systems. A few exceptions to this rule occur along the eastern shore of Lake Tappan and in the southwest corner of the Borough mostly south of the Reservoir in the area extending towards the Hackensack River where there are some locations with slight and moderate limitations mixed together along with the flood plains which of course have severe limitations.

This means that unless residential densities or the intensity of non-residential land uses are maintained at a low level on the remaining vacant areas, then septic problems will probably arise and public sewer systems will become necessary.



SOURCE OF SOILS:
USDA, SOIL SURVEY
OF THE PASSAIC AREA
ALL 1975, IN CONJUNC-
TION WITH S.C.A.
INTERPRETATIVE
SHEETS, 1974
REV 11/8/78
REV 10/25/78
REV 10/13/78
REV 10/13/78
REV 10/13/78
REV 10/13/78



SLIGHT

MODERATE

SEVERE & URBAN LAND



500 500 0 500 1000
SCALE IN FEET

SUITABILITY FOR SEPTIC DISPOSAL SYSTEMS

BOROUGH OF OLD TAPPAN
BERGEN COUNTY, NEW JERSEY

SCALE: 1" = 500'

1978

BOORMAN & CORRAM, INC. CONSULTANTS

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GEOLOGY

The underlying rock formations of northern Bergen County have limited potentials as groundwater supply sources, and hence extensive public water systems such as the Hackensack Water Company have developed.

A great portion of the Old Tappan area is already served by the Water Company, while a sizable acreage remains unserved. (See Exhibit 15 in the chapter on utilities following) Presently there are about one hundred Old Tappan homes dependent on individual wells and hence it was felt that an analysis of the Borough's underlying geology was necessary.

Geologists analyzed well records in Bergen County and found that the residential water supplies may be developed almost anywhere in the County. They also established a correlation between respective geologic formations and an average safe sustained yield (i.e., recharge), for the total of all users within a square mile for each formation. Based on this type of information, the geologists derived recommended minimum lot sizes by geologic formations for developments dependent on local groundwater supply. These data are presented in the following diagram and tabulation.

From Table I it can be seen that the State of New Jersey Bureau of Geology recommends for the Borough of Old Tappan a minimum 1 to 1.5 acre lot size where developments are dependent on groundwater supplies. This is done in order to insure that those lands which will be developed ten, twenty, or thirty years from now, will also be able to utilize the groundwater resource without causing competition between users and the resulting overdraft when drilling deep below the surface of the ground into bedrock formations where the best and most dependable water supply is to be found.

Following Exhibit No. 12 is the diagram of Geology, illustrating the locations of major geologic formations in Old Tappan. From this exhibit one can note that all bedrock formations in Old Tappan are the Brunswick formation and that the minimum recommended lot sizes are 1 - 1 1/2 acres. A careful review of the various readily available geologic data sources indicates that there are no geologic faults within Old Tappan. Frequently rich sources of groundwater supply can be found in the vicinity of such faults, however, this is not applicable in Old Tappan.

STATE OF NEW YORK
ORANGETOWN

LAKE TAPPAN
HARRINGTON 11th & 20th STS.

RIVER VALE

Qrm

Rb

Rb

Qsd

Qsd

Qsd

Rb

HARRINGTON PARK

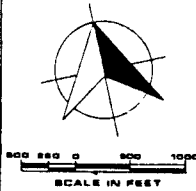


AREA SCALE

SOURCE OF GEOLOGY:
ATLAS SHEET 40,
GEOLOGIC OVERLAY
SHEET 23 - STATE OF
N.J. BUREAU OF GEOLOGY
& TOPOGRAPHY BULLETIN
74, AUG. 1974.
REV. 11/8/78
REV. 10/26/78
REV. 11/17/78
SOURCE OF BASE MAP:
OFFICIAL TAX MAP, 1973

SYMBOL	GEOLOGICAL FORMATION
BEDROCK FORMATION	
Rb	TRIASSIC BRUNSWICK FORMATION
GLACIAL FORMATIONS	
Qrm	RECESSIONAL MORRAINE
Qsd	STRATIFIED DRIFT

RECOMMENDED MINIMUM LOT SIZE
1-1/2 Ac.
1-1/2 Ac.
1-1/2 Ac.



GEOLOGY

BOROUGH OF OLD TAPPAN
BERGEN COUNTY, NEW JERSEY
SCALE: 1" = 500'
1978
BOORMAN & BOORAM, INC. ... CONSULTANTS

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Geologic Formations

TABLE I

STATE OF NEW JERSEY BUREAU OF GEOLOGY RECOMMENDED
MINIMUM LOT SIZE STANDARDS FOR BOROUGH OF OLD TAPPAN *

1978

<u>Bedrock Formation</u>	<u>Minimum Recommended Lot Sizes in Acres</u>
Triassic Brunswick Formation	1 - 1 1/2 acres **
<u>Glacial Formation</u>	
Recessional Moraine	1 - 1 1/2 acres **

Source: Bureau of Geology and Topography, Bulletin 74,
August 1974

* Applicable only where developments are dependent on groundwater supply.

** Source for this formation area delineation: Atlas Sheet 40, Geologic Overlay Sheet 23. State of New Jersey Bureau of Geology and Topography Bulletin 74, August 1974 and State Geologists letter of 11/3/78.

SOILS

Exhibit No. 11 following, Critical Soils Diagram, presents the U. S. Department of Agriculture Soil Conservation Service soil survey findings as related to Old Tappan Borough soil conditions. From this diagram one can observe the following:

1. The largest category of soils are classified as Urban Land, which are lands already developed, and hence much too variable to be classified by the soils scientists as one of the three classifications having either slight, moderate, or severe limitations.

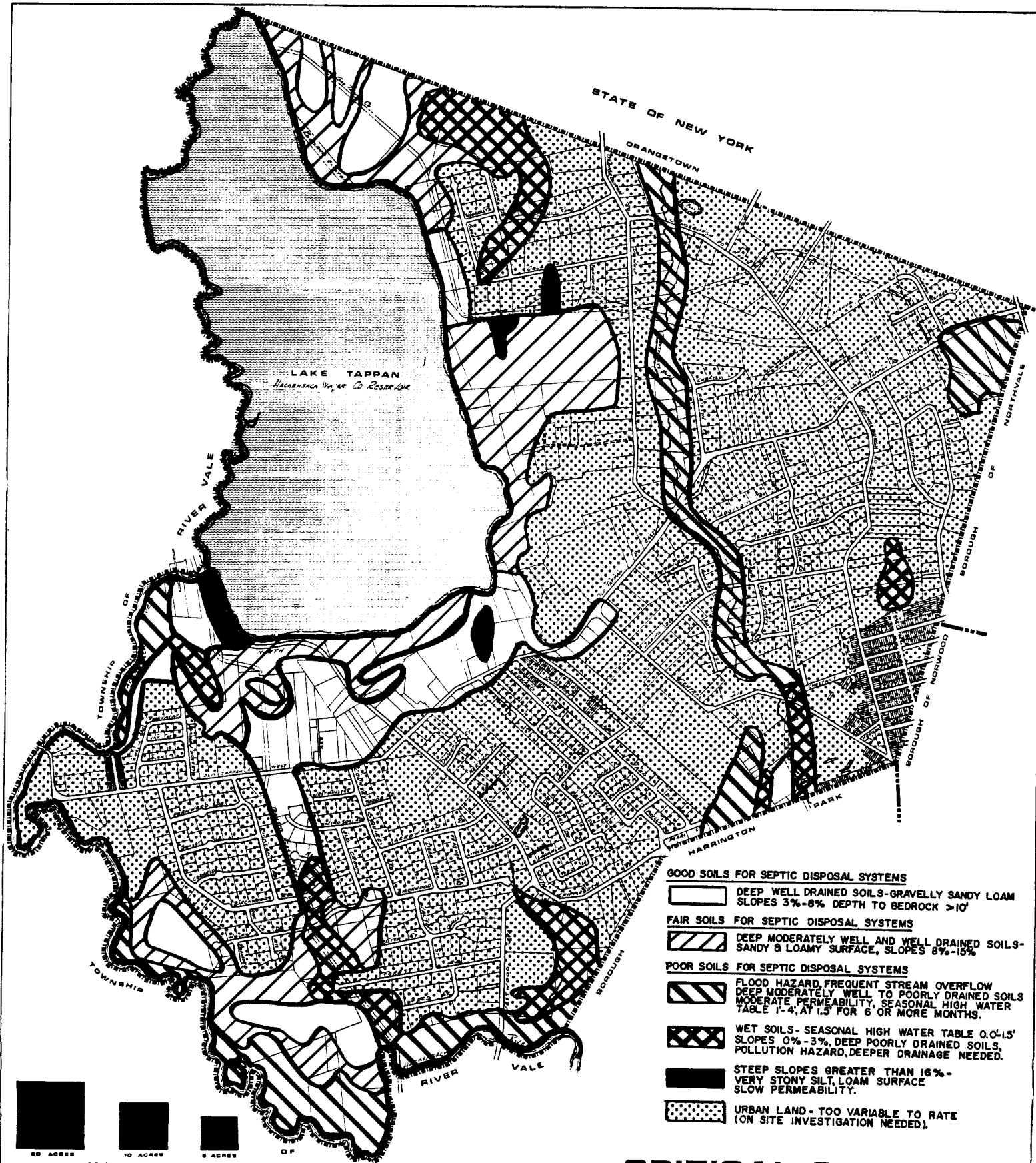
2. Soils with slight limitations, or good soils, which are deep and well drained soils, including gravelly sandy loam surfaces, and gentle slopes in the range of 3% to 8% grades, with a depth to bedrock greater than 10 feet. Such soils found mostly along the shores of Lake Tappan and in a variety of scattered locations in the southwest corner of Old Tappan.

3. Fair soils for septic disposal systems are deep moderately well and well drained soils including sandy and loamy surfaces with general slopes in the 8% to 15% grade range. Depth to bedrock is greater than 6 feet. Such soils are mostly located along the Lake Tappan shores and in the southwest corner of the Borough.

4. Soils found as poor for accomodating septic disposal systems are indicated on the map in three main categories:

a. Lands with steep slopes greater than 16% and well and moderately well drained soils, with very stony silt loam surface and slow permeability.

b. Areas subject to flood hazards and frequent stream overflows with deep and moderately well, to poorly drained soils moderate permeability; depth to bedrock 6 feet;



CRITICAL SOILS

DIAGRAM

BOROUGH OF OLD TAPPAN
BERGEN COUNTY, NEW JERSEY

SCALE: 1" = 500'

1978

BOORMAN & DORRAN, INC. ... CONSULTANTS

SOURCE OF SOILS:
U.S.D.A. SOILS SURVEY
OF THE PASSAIC AREA
N.J. 1975, IN CONJUNC-
TION WITH S.C.S.
INTERPRETATIVE
SHEETS, 1974.

REV 11/8/78
REV 10/28/78
REV 10/13/78
SPECIAL 11/2/78
OFFICIAL TID MAP, 1978



500 250 0 250 500
SCALE IN FEET

11

seasonal high water table in the range of 1 to 4 feet, at 1.5 feet depth below the surface for 6 or more months of the year.

c. Wet soils - with a seasonal high water table of 0 to 1.5 feet from the surface include generally areas with slopes of 0 to 3% grades; including areas of pollution hazards with deep,* poorly drained soils - where deeper drainage is needed.

"In summary, approximately thirty-one percent of the land area in the Borough consists of soils that have slight to moderate limitations for on-site sewage effluent disposal systems. Approximately forty-nine percent have severe restrictions related to one or more of the following: impeded permeability; seasonal high water table; slope; periodic flooding. The remaining approximately twenty percent require individual site investigation.

The report "The Need for Old Tappan Sewers" by Leonard W. Miller, Sanitary Engineer, Hackensack Water Company, 1976, contains a section titled "Existing Sanitation". On page two there is a list of streets in the Borough along which it was observed that there are soils that contain layers that inhibit the proper operation of septic systems. A comparison of the soils maps prepared by the Soil Conservation Service indicates that all of the listed streets are in soils areas within Group II. These are soils that have an unacceptable permeability rate and require sewage effluent disposal system designs in excess of normal requirements for optimal function." **

* "The high water table and the rapid percolation of the sub-station cause a potential pollution hazard for on-site septic filter fields." Source: Passaic County Soil Survey, Page 19.

** Borough of Old Tappan report prepared by Seymour J. Goodman, USD, SCS, February 1978.

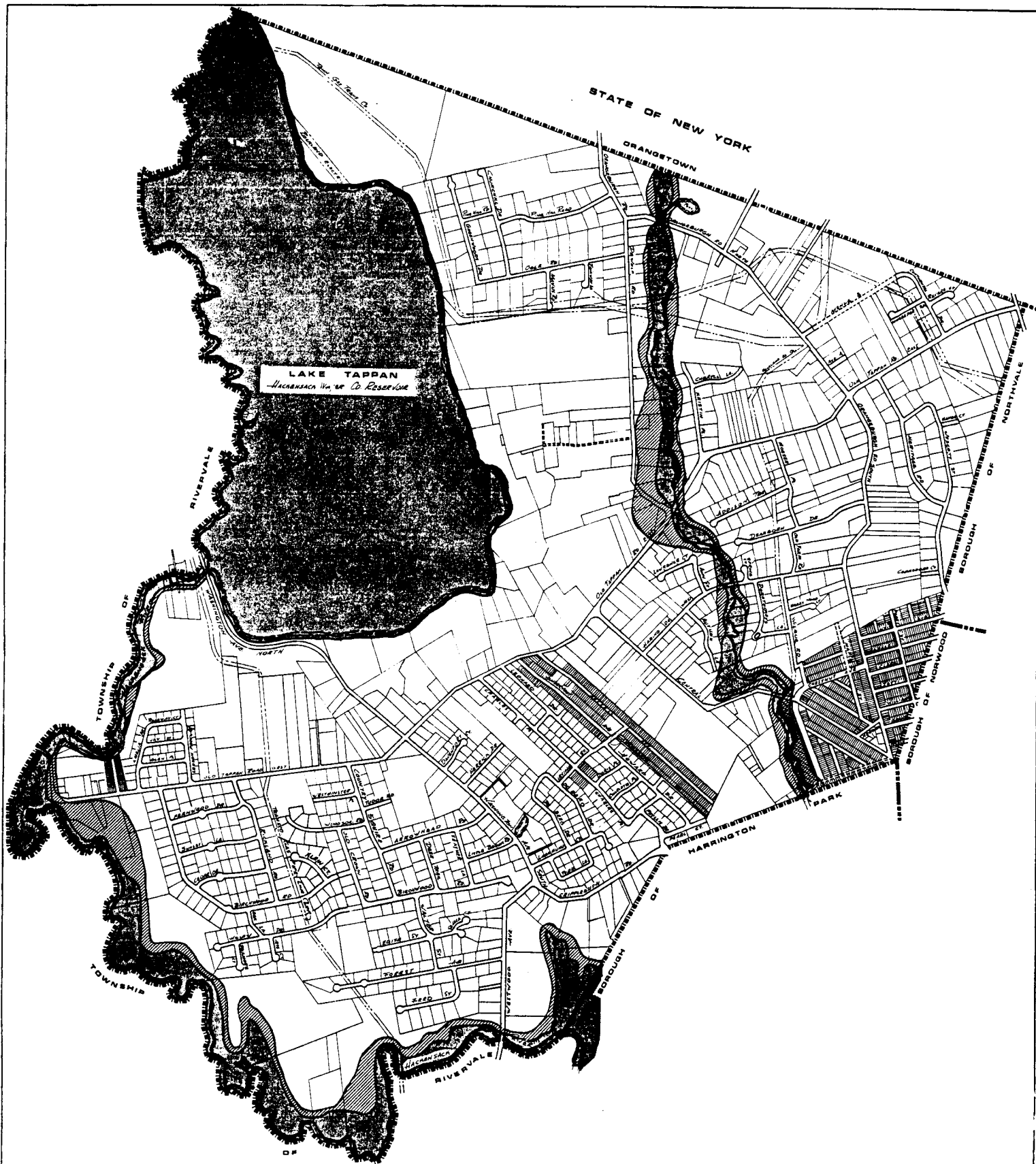
FLOOD PLAINS AND FLOOD HAZARD AREAS

Exhibit No. 20 following presents the diagram of Flood Hazard information as prepared from the U. S. Department of Housing and Urban Development Flood Hazard Map, H-01 of April 1977. The Federal Insurance Administration flood insurance rate map indicates the areas of the 100-year and 500-year flood areas.

From an analysis of this diagram, one can readily observe that the flood areas extend along both banks of the Dorotockey's Run and along the Hackensack River Valley.

Almost all the lands involved in the Flood Hazard areas along the Hackensack River are owned by the Hackensack Water Company as watershed properties. There is only a very small and minor exception, north of Old Tappan Road at the bridge crossing from River Vale into Old Tappan, where there is a residence located in or near the Flood Plain. The lands along Dorotockey's Run, which is also a water body running in the north - south direction, unlike the lands in the Hackensack River Valley, are privately owned. In many places as at the northern end of Old Tappan, the building lots are fairly deep, on the order of 400', 500', or 600' so that the rear portions of the lots which are located in the Flood Plain are also serving as permanent open spaces and not as building areas. Otherwise, a substantial portion of the lands within the Flood Plains of Dorotockey's Run are privately owned parcels which in most cases are still remaining vacant. The reason for this is we presume that developments tend to follow the line of least resistance, and hence take place where most easy to accomplish, leaving the most marginal lands for later development.

In the light of the possible problems that developments in the Flood Plains might cause in due course of time, it is recommended herewith that an updated Flood Plain Zoning Ordinance be prepared by the Planning Board and recommended for adoption to the Governing Body at a reasonably early date.



**- DIAGRAM OF -
FLOOD HAZARD AREA**

**BOROUGH OF OLD TAPPAN
BERGEN COUNTY, NEW JERSEY**

SCALE: 1" = 500'

SEPTEMBER 1978

BOORMAN & DORRAM, INC. ... CONSULTANTS



ZONE A 100-YEAR FLOOD



ZONE B 500-YEAR FLOOD



0 500 1000
SCALE IN FEET

SOURCE:
U.S. DEPT. OF HOUSING AND
URBAN DEVELOPMENT,
FLOOD HAZARD MAP NO. 10,
APRIL 19, 1977

SOURCE OF DATA:
OFFICIAL TAP MAP, 1976

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WETLANDS

The Wetlands Exhibit No. 7 following presents the Diagram of Wetlands and Flood Plains.

From this exhibit one can observe that the largest portion of Old Tappan Borough is classified as Urban Land, which is an area too variable to be classified by the soil scientists either for the seasonal high water table or for wetland characteristics.

The remaining other portions of Old Tappan Borough are classified in four categories:

1. Areas with high water tables ranging from 0 to 1.5 feet depth; wet for six months of the year, and rarely flooded. The locations of these wetlands are scattered in various parts of the Borough.

2. Those areas which have a seasonal high water table of 1 to 4 feet in depth; wet for nine months or more of the year and frequently flooded. These areas are located mostly in the Hackensack River and Dorotockey's Run valleys.

3. Areas with seasonal high water tables at the depth of 1.5 to 10 feet; wet for short periods of the year and no flooding. These areas are located along the northeast, and southern shores of Lake Tappan and in the southwest portion of the Borough.

4. Seasonal high water tables at the depth of greater than 10 feet below the surface and no flooding. These are the best drained lands and are located east and south of Lake Tappan and the southwest corner of the Borough.

MAJOR WATERSHEDS

Exhibit No. 6 following, Major Watersheds, illustrates graphically the location of three major watersheds in Old Tappan Borough. The western half of the Borough drains to Lake Tappan, and the Hackensack River. The central portion of the easterly-part of Old Tappan drains to Dorotockey's Run, while the extreme easterly-portion drains toward Tappan Run.

DRAINAGE

Exhibit No. 14, following presents the Diagram of Drainage Characteristics of Old Tappan Borough.

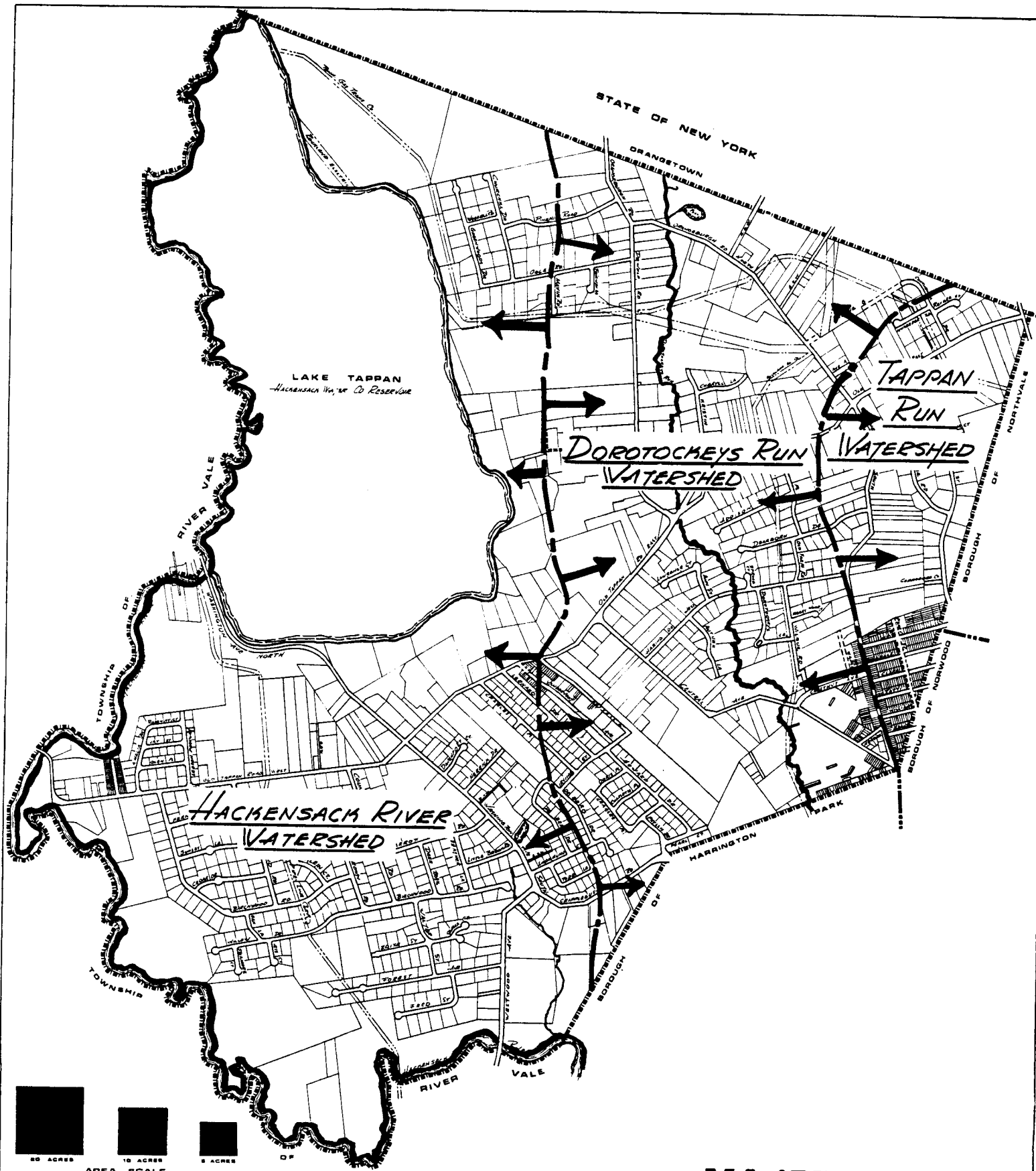
1. From this exhibit one can observe that the largest category is Urban Land, which represents areas already populated and developed where the drainage characteristics are too variable for the soil scientists to rate as either well, moderately, or poorly drained.

The well drained soils are found adjacent to and near the shores of Old Tappan Lake in the northeast and south and south of the Lake in the southwest corner of the Borough.

2. Soils classified as having well drained or moderately well drained drainage characteristics are found east and south of Lake Tappan.

3. Moderately well drained to poorly drained soils are generally located, as indicated by the soil scientists, in and near the floodways of Dorotockey's Run and the Hackensack River valleys and in various scattered locations mostly in the southwest corner of Old Tappan Borough.

4. As for the location of the poorly drained soils, there is no clear-cut pattern, and these locations are scattered in various parts of the Borough.



AREA SCALE



0 500 1000
SCALE IN FEET

MAJOR WATERSHEDS

BOROUGH OF OLD TAPPAN
BERGEN COUNTY, NEW JERSEY

SCALE: 1" = 500'

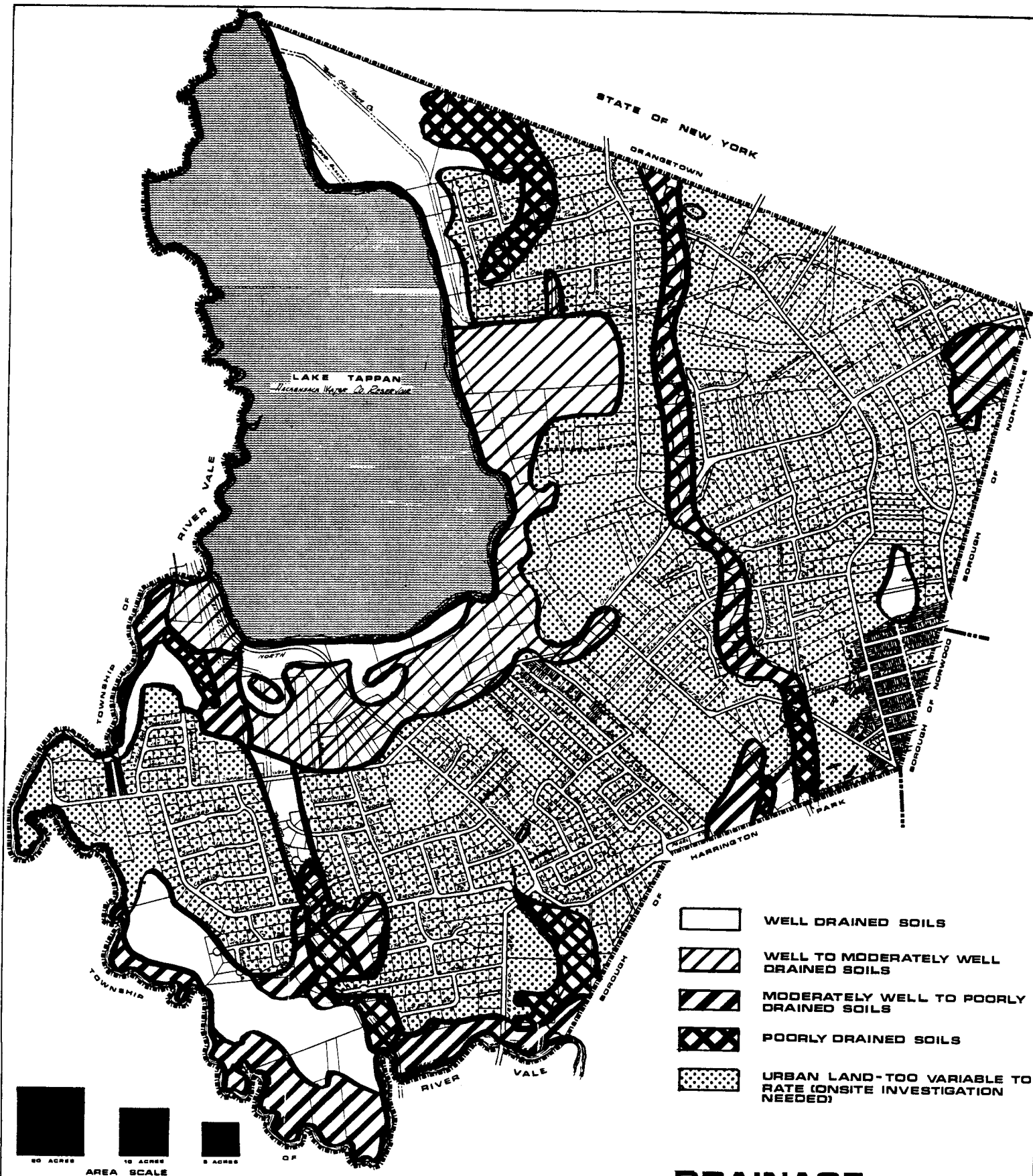
1978

BOORMAN & DORRAM, INC. ... CONSULTANTS

6

REV 11/8/78
REV 10/26/78
REV 10/15/78
SOURCE OF DATA: MAP
OFFICIAL THE MAP, 1978

SOURCE: MC CLAVE & MC CLAVE INC.
PLANNING BOARD ENGINEERS
DECEMBER, 1978.



DRAINAGE CHARACTERISTICS

BOROUGH OF OLD TAPPAN
BERGEN COUNTY, NEW JERSEY

SCALE: 1" = 500'

1978

BOORMAN & DORRAN, INC. ... CONSULTANTS

SOURCE OF SOILS
U.S.D.A. SOILS SURVEY
OF THE PASSAIC AREA
N.J. 1975, IN CONJUNC-
TION WITH SCS
INTERPRETATIVE
SHEETS, 1974.
REV. 10/5/78
REV. 10/26/78
REV. 10/26/78
SOURCE OF SOILS MAP
OFFICIAL TAX MAP, 1978



14

2. Washington Avenue north of Old Tappan Road to the beginning of the Lake Tappan Reservoir, for a distance of 1450 feet.

3. Haring Drive, east from Orangeburg Road to Old Farm Road, where the storm drain now begins for a distance of 790 feet.

4. Arrowhead Road from a point halfway between Deer Trail and Feather Lane to the brook just west of Washington Avenue, south for a distance of 640 feet.

*

III. LAND USE

Old Tappan Borough with an area of 2,508 acres and an estimated population of 4,100 persons - occupying 1,142 housing units - as of July 1, 1976 is not a developing, but an already substantially developed community.

By the end of 1978 there remain only about 8.5% of the total municipal area vacant. When considering flood plains and flood hazard areas, it is estimated that only 3% of the municipal area remains developable.

When analyzing the Old Tappan population trends as presented in Table P-II in Master Plan Report No. 1 on Population and Housing, we note that there were only three periods in Old Tappans' history when population growth was slow or stagnant.

The initial period between 1682 and 1894, the first two centuries in Old Tappan's history, witnessed only gradual population growth. The original land grants of the Old Tappan area were purchased by three Dutch farmers from Manhattan for their families. In 1682 Old Tappan was much larger in area than at present, when it included also lands west of present day Piermont and Nyack. From 1682 to 1704 the three families owned and cultivated their lands jointly. The first division of lands took place in 1704. By 1894, two hundred and twelve years after the initial purchase, the Old Tappan population stood at 102 persons. Thus, during the first two centuries of its existence the community had grown only slowly and steadily to the size of a small village. Thereafter with the turn of the century, population growth had accelerated and more than doubled by the year 1900. It has kept on growing ever since with two exceptions.

The first period of retarded population growth took place between 1930 and 1940, in the post depression and pre-war years, when the Old Tappan population grew in ten years from 600 to only 609 persons. In contrast, the Borough growth was more dramatic during the 1950 - 1960 period, when its population jumped from 828 to 2,330 and then again from 1960 - 1970

when it increased to 3,917 persons. Thereafter the rapid growth had stopped, because apparently Old Tappan had run out of available vacant and developable lands. Since 1970 and until the present day, only slow and token population growth has taken place. This is the reason for the opening statement wherein it is declared that Old Tappan is not a developing community, but a predominantly developed one.

By today's standards Old Tappan's original 1955 Master Plan is very generalized and hence does not afford present day researchers a comparison of the before and after conditions.

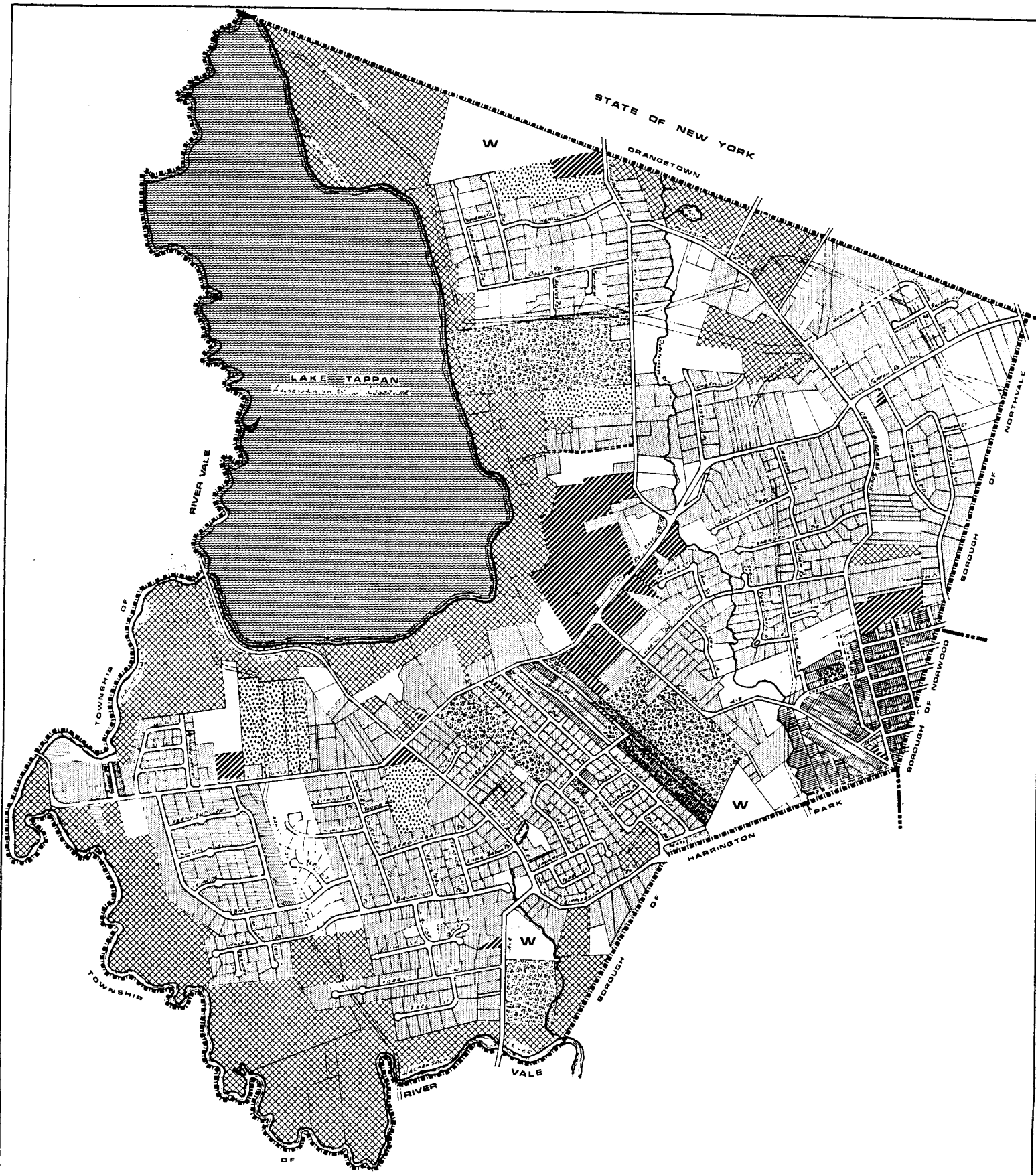
In order to take inventory and to assess existing conditions, a borough-wide land use survey was conducted during the summer of 1978. The survey findings were mapped on a new 1"=400' scale lot line base map, as a rigidly mounted colored presentation drawing. A simplified black and white version of this map in diagram form is also presented following as Exhibit No. 1.

Since these maps were drawn to a fairly accurate scale, the following step included the measurement of various land use acreages which in turn are presented in Table II following.

From the land use diagram and from Table II one can derive the following:

When comparing Exhibit 1-A, the colored Land Use Diagram, or for that matter Exhibit 1, the Land Use Diagram - 1978, with Exhibit No. 20, the Diagram of Flood Hazard Areas (see Chapter II), we note that a major portion of the remaining undeveloped vacant parcels in Old Tappan Borough happen to be located in the valley of Dorotockey's Run in the flood plain. Most of this land lies either in Zone A, the 100-year flood, or in Zone B, the 500-year flood zone, as indicated on Exhibit No. 20, the Diagram of Flood Hazard Areas.* This means that for all practical purposes there remain only 3% to 4% of the Borough area as vacant and developable areas.

* Exhibit No. 20 found following page 12



RESIDENTIAL

RESIDENTIAL

MIXED RES.

FARM

PUBLIC

SEMI-PUBLIC

NON-RESIDENTIAL

OFFICE & COMMERCIAL

OPEN SPACE

VACANT

W-WOODED

500 750 0 500 1000

SCALE IN FEET

SOURCE:
S.S.D. FIELD SURVEY 5/76
NEW HOUSES/78
P.C. 78-13-1128 (11-1-78)
C.D. 78-13-1128 (11-1-78)

- LAND USE DIAGRAM -

1978

BOROUGH OF OLD TAPPAN
BERGEN COUNTY, NEW JERSEY

SCALE: 1" = 500'

SEPTEMBER 1978

BOORMAN & ORRAM, INC. ... CONSULTANTS

TABLE II
EXISTING LAND USE ACREAGES, 1978
OLD TAPPAN BOROUGH, NEW JERSEY

<u>Land Use</u>	<u>Acres</u>	<u>Percent of Total</u>
Residential	971.3	38.8
Mixed Residential	4.4	0.2
Farm	45.0	1.8
Public	160.4	6.4
Semi-Public	64.9	2.6
Office - Commercial	77.3	3.0
Vacant Wooded	214.1	8.5
Reservoir, including watershed lands	844.3	33.7
Streets and Roads	85.3	3.4
Development Applica- tions in process	<u>40.0</u>	<u>1.6</u>
	2,508.0 *	100.0

* Source: 1978 Planner's Data Book, Bergen County Planning Board, 1978

Analyzing further the Land Use Diagram and Table II, one can observe the following:

1. Residential

Residential developments occupy almost 1,000 acres or about 39% of the Old Tappan municipal area. These residential areas are situated mostly in a crescent shaped configuration to the east and to the south of Lake Tappan and its uplands. In general there seems to have been three trends relating to residential lot sizes:

a. We find undersized lots of 30' X 100' or 3,000 square feet in the defunct speculative subdivisions of the 1920-ies and 1930-ies, many of which have become municipally owned over the years. These lots are situated mostly in the Central Avenue and Vandervoot Avenue neighborhoods.

b. A second trend is notable with lot sizes averaging 100' X 150' or about 15,000 square feet or 1/3 of an acre, in central and southern parts of Old Tappan Borough where most of the community's population is concentrated.

* c. A third category with varieties of larger lot sizes many of which are in the range of 600' X 150' or 90,000 square feet, or 2 acres in size are found in the eastern and northeastern portions of Old Tappan.

The Land Use Survey revealed that no matter what lot sizes prevail in any Old Tappan neighborhood, housing conditions are excellent to very good over most of the Borough, with very few and very minor exceptions consisting of only an occasionally deteriorating home. There are no large vacant tracts remaining in Old Tappan and most of the vacant land is distributed fairly evenly throughout the residential sections, generally in parcels smaller than 30 acres in size.

Mixed residential and commercial uses include occasional home occupations such as realtors, doctors or dentists. These are mostly located on Old Tappan Road east and west and on West Brook Avenue.

2. Farming

Agricultural uses in Old Tappan Borough as well as in most other parts of the state are generally on the decline because of high taxes, and high land values that compete with the lower intensity uses, such as agricultural pursuits. Several of the Old Tappan farm parcels are used as nurseries and farms, occasionally in combination because these are more intensive uses of the farm land. Altogether nursery and farm uses account for only 61 acres or about 2 1/2% of the Old Tappan area.

3. Public Uses

Public uses account for about 160 acres or 6.5% of the municipal area and include the following: Stonepoint Park; the Charles DeVoe School; the T. Baldwin Demarest Elementary School, a ballfield at Charles and Irving Streets, the Library; the Municipal Garage; the tennis courts; the Fire House; the First Aid Squad; the Borough Hall; the Lowe B. Stanland Memorial Park; the Old Tappan Golf Course, and a ballpark at Chestnut Avenue.

4. Semi-Public Uses

Semi-Public uses include among others, Lake Tappan and its watershed area, portions of the Hackensack River Flood Plains as owned by the Hackensack Water Company, the Trinity Reformed Church, a cemetery, the Idlewild Country Club and Tennis Courts, the Tappan Trees Country Club, the Longwood Racquet Club, and the Prince of Peace Lutheran Church as well as St. Pius X Catholic Church and Rectory. Semi-public uses occupy about 71 acres or about 3% and the reservoir and the watershed lands occupy about 844 acres or 34% of the municipal area. Thus, semi-public uses and the reservoir combined occupy in excess of 900 acres or over 36% of the Old Tappan area.

5. Office and Commercial Uses

Office and commercial uses are mostly concentrated as good planning would dictate in one location on Old Tappan Road,

west of Dorotockey's Run in the center of town. There are only few and minor exceptions, two service stations, nurseries, a dog kennel, and a restaurant which are located in other portions of town. The commercial area in the Borough Center includes a shopping center, several office buildings, a number of banks, a savings and loan institution, miscellaneous service stations, farm stands and the like.

Altogether office and commercial uses occupy 71 acres or almost 3% of the Borough area.

6. Vacant Lands

Vacant lands, which were discussed earlier occupy about 254 acres or 10% of the total area and include in good part marginal lands, flood plains and scattered parcels of relatively small size in various portions of Old Tappan.

IV. ZONING

Exhibit No. 16, Old Tappan and Environs, Zoning 1978, illustrates graphically the Borough and its abutting neighbors' current zoning.

The Borough of Old Tappan zoning as illustrated by the exhibit following consists of a variety of four residential zones ranging from 10,000 square feet to 40,000 square feet in minimum lot sizes and a small business zone in the center of town, at the vicinity of Old Tappan Road and Center Avenue.

None of the zoning provisions in any of the neighboring five communities conflicts with Old Tappan objectives. In the west and south the Hackensack River and the Reservoir form a substantial barrier between Old Tappan land uses or zone districts and River Vale. Along the New York State line in Orangetown only residential zones abut the R-40 District (40,000 square feet) of Old Tappan. There the required lot sizes vary from a minimum of 15,000 square feet to 80,000 square feet in size. Along the joint boundary line with North Vale, 12,500 square foot residential lots abut the 40,000 square foot lots of Old Tappan, and a minimum 15 acre LA Laboratory and Administrative Zone abuts the 10,000 square foot lot district of Old Tappan Borough. Similarly Harrington Park and River Vale match reasonably well the zoning on the Old Tappan side.

UTILITIES *

Sanitary Sewers

Sanitary sewers are unavailable in Old Tappan Borough at present. The single exception is the only unconnected dry sewer line located in the Westcott Street and Heritage Road neighborhood.

Two years ago in October of 1976, the firm of McClave and McClave prepared a feasibility report for a sanitary sewer system for Old Tappan. The summary findings and conclusions of the study were that the cost of the sewers for the Borough were estimated at five million dollars. It was further estimated that the Federal Grant for 75% of the eligible costs would be in the amount of \$2.9 million and could be reasonably anticipated. No allowance had been made at the time for possible State Grants. Accordingly it was estimated that the Borough would be required to finance the balance of \$2.1 million. Of course, if a State Grant would be forthcoming, then this amount would be reduced accordingly. The annual costs of sewers for Old Tappan were estimated at \$218,000, including capital charges, treatment charges, operating and maintenance costs, etc. It was contemplated that the Old Tappan sewers would be connected to the Bergen County Sewer Authority System which has included Old Tappan in the design of its sewer system treatment plant. It was recommended that Old Tappan proceed with negotiating for service agreements with the Authority.

The feasibility report also found that two small areas of Old Tappan could be sewered more economically and more efficiently by adjacent municipal systems of River Vale and North Vale, and hence, it was recommended by the report that appropriate arrangements be made with these two municipalities.

After review of the feasibility report and the environmental assessment study, the Borough residents were to decide whether to proceed with the development of a sewer system or not.

* Source: William H. Martin, PE, McClave and McClave, Planning Board Engineers, Cliffside Park, N.J., October 1978

At the time of this writing it appears that public opinion might be divided on this subject, and it is not clear whether the sewer project might proceed. Hopefully, this long range Master Plan will contribute data that will help arrive at the proper decision on this important subject.

Potable Water

Over 800 Old Tappan homes are served by the Hackensack Water Company's water system, and over 100 homes are dependent on individual wells.

Exhibit 15 following illustrates the approximate general water service area based on information received from the Hackensack Water Company during the Fall of 1978.

Storm Sewers - Existing

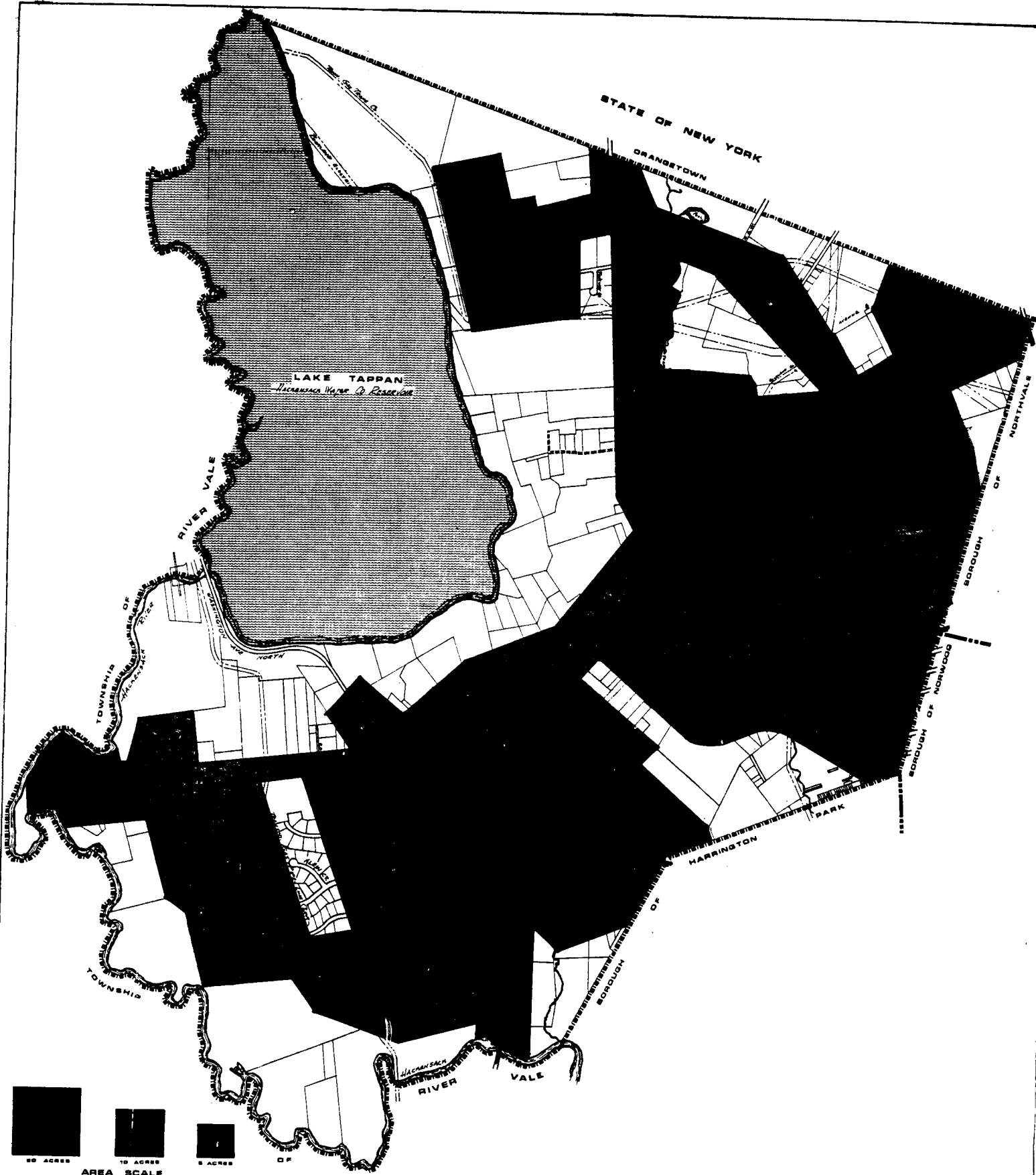
Most of the developed portions of Old Tappan Borough are served by storm sewers, and therefore there is no additional diagram provided for illustrating this point.

Storm Sewers - Proposed

Recommended improvements to Old Tappan's storm sewer system in order of priority are as follows: *

1. Russel Avenue for a distance of 1860 feet from Old Tappan Road to the existing storm drain at the corner of Irving Street and Howard Drive. This is suggested to be part of a needed road rebuilding program.

* source: Harry Lake, Superintendent of Public Works, 1/11/78.
See Exhibit No. 13 following.



AREA SCALE



WATER SERVICE AREA



WATER LINE



SCALE IN FEET
0 500 1000

DIAGRAM OF WATER SERVICE AREA

**BOROUGH OF OLD TAPPAN
BERGEN COUNTY, NEW JERSEY**

SCALE: 1" = 500'
1978
BOORMAN & CORRAM, INC. ... CONSULTANTS

REV 10/3/75
REV 10/16/76
REV 10/16/76
DIVISION OF LAND, MARINE
OFFICIAL TAX MAP, 1976

2. Washington Avenue north of Old Tappan Road to the beginning of the Lake Tappan Reservoir, for a distance of 1450 feet.

3. Haring Drive, east from Orangeburg Road to Old Farm Road, where the storm drain now begins for a distance of 790 feet.

4. Arrowhead Road from a point halfway between Deer Trail and Feather Lane to the brook just west of Washington Avenue, south for a distance of 640 feet.

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III. LAND USE

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By the end of 1978 there remain only about 8.5% of the total municipal area vacant. When considering flood plains and flood hazard areas, it is estimated that only 3% of the municipal area remains developable.

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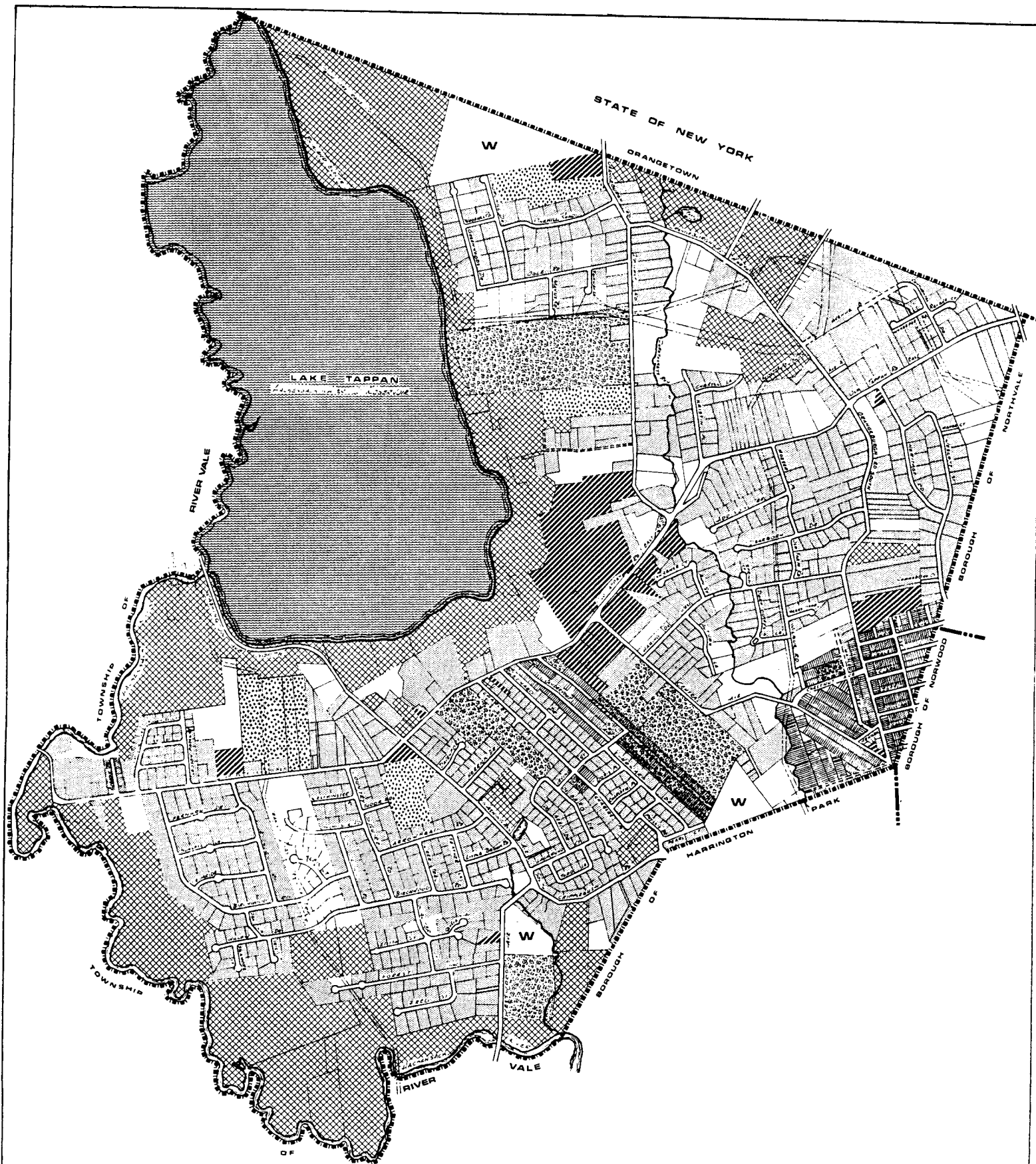
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RESIDENTIAL

RESIDENTIAL

MIXED RES.

FARM

PUBLIC

SEMI-PUBLIC

NON-RESIDENTIAL

OFFICE & COMMERCIAL

OPEN SPACE

W VACANT

W-WOODED

- LAND USE DIAGRAM -

1978

BOROUGH OF OLD TAPPAN

BERGEN COUNTY, NEW JERSEY

SCALE: 1" = 500'

SEPTEMBER 1978

BOORMAN & DORRAN, INC. ... CONSULTANTS

1

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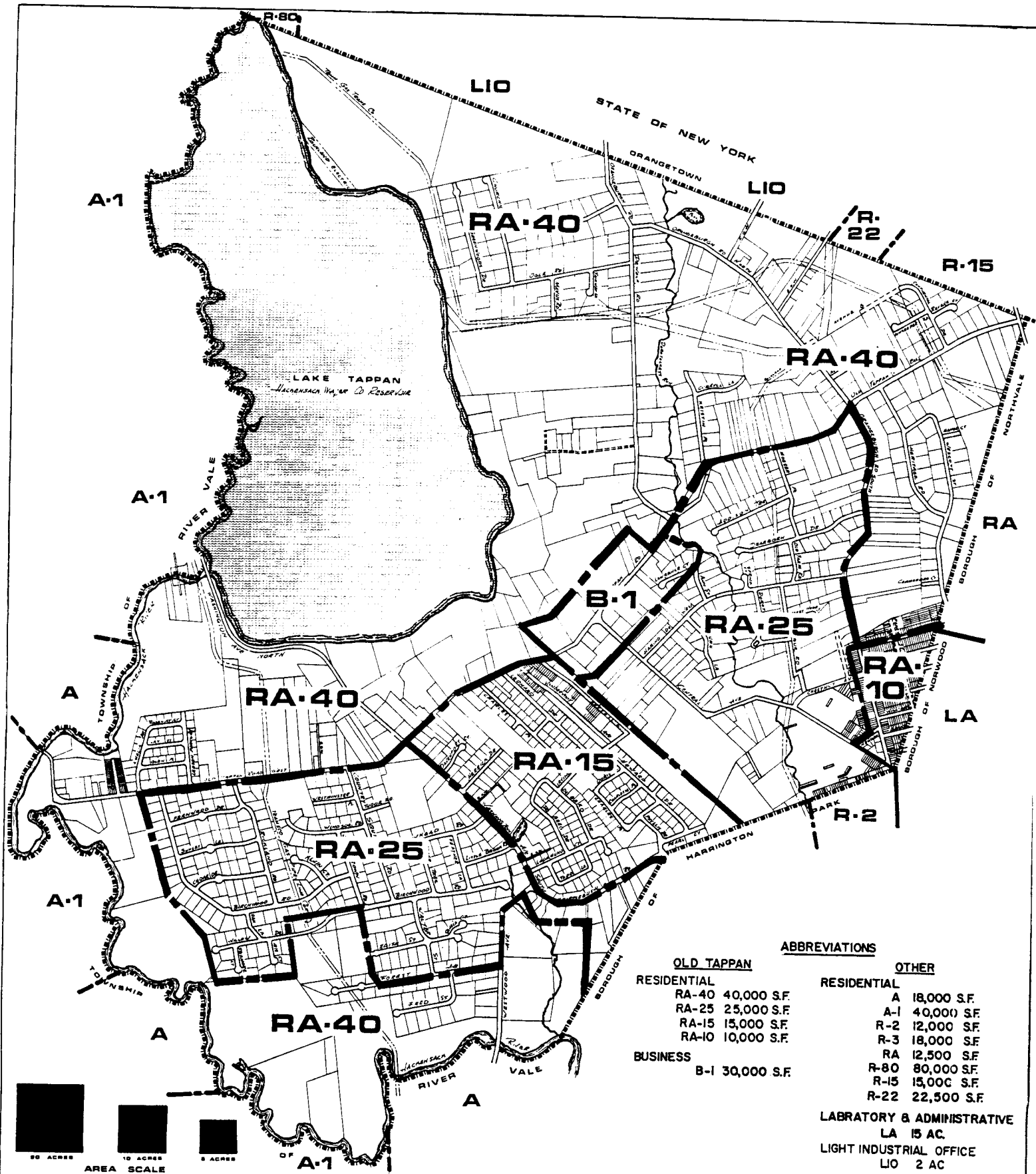
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OLD TAPPAN & ENVIRONS **ZONING 1978**

BOROUGH OF OLD TAPPAN
BERGEN COUNTY, NEW JERSEY

SCALE: 1" = 500'

1978

BOORMAN & DORRAN, INC.

CONSULTANTS

16

REV. 10/8/78
 REV. 10/15/78
 REV. 10/15/78
 SOURCE: DE JUNE, 1978
 OFFICIAL: 10/15/78

SOURCE: OFFICIAL ZONING MAP 1975

V. TRAFFIC & CIRCULATION

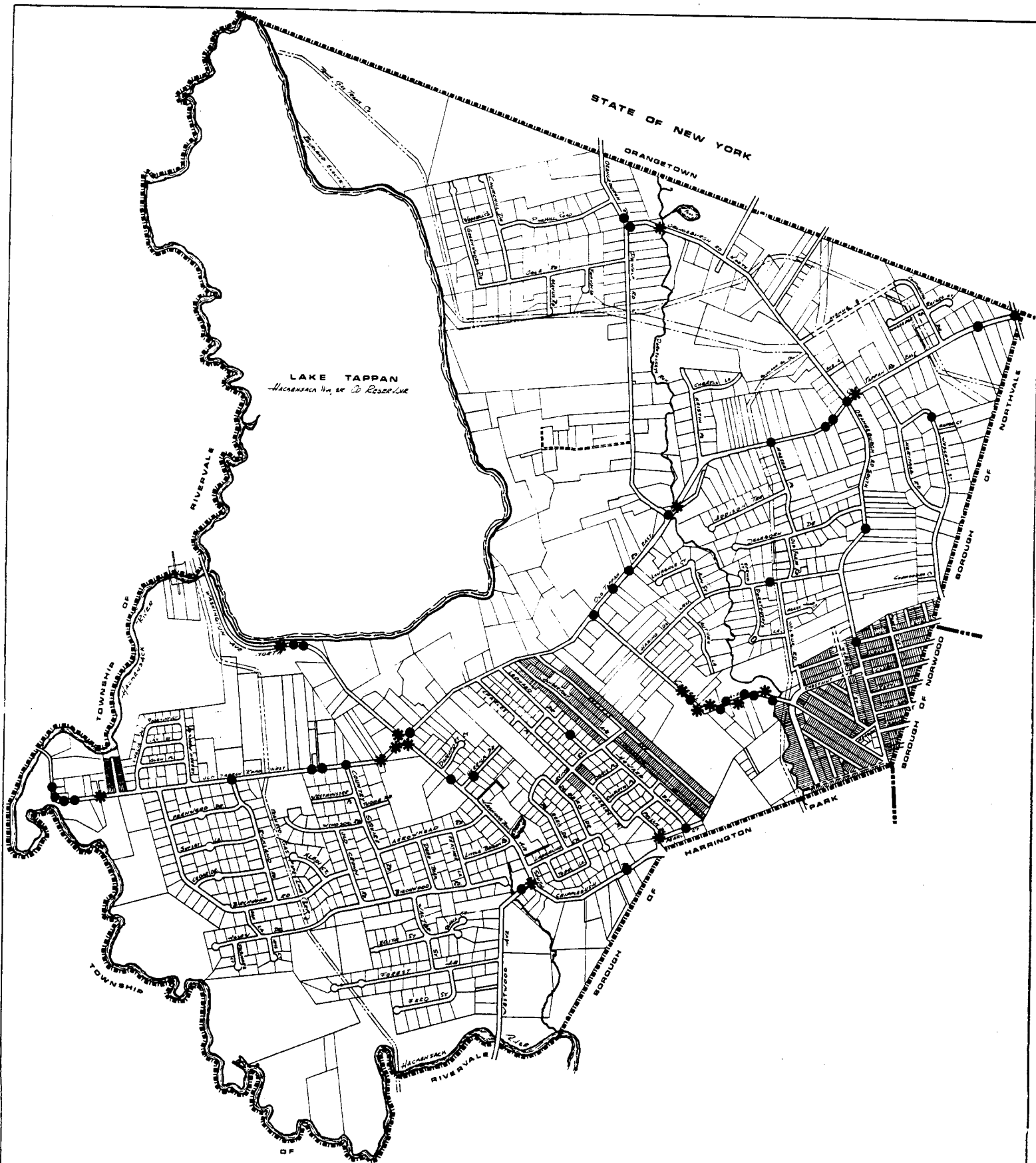
Accident Locations

Accident data received from the Old Tappan Chief of Police were plotted on Exhibits 17 and 18 presented on the following pages. These exhibits illustrate the geographic distribution of traffic accidents in Old Tappan Borough during 1977, and the first ten months of 1978. Accidents involving bodily injuries were mapped differently from those affecting only property damage, and fatalities were also indicated separately. Therefore, from an analysis of these maps, it can be readily noted that:

1. Two fatal accidents occurred in 1977, one on Orangeburgh Road and the other on Central Avenue. There were no other fatal accidents in the course of the first ten months of 1978.

2. The pattern of accident concentrations is a repetitive one, in that a pattern similar to the 1977 accident distribution occurs also in 1978, thereby indicating a probability of the inadequacy of certain road conditions in particular locations where such conditions are a contributing factor to vehicular accidents. Such repetitive patterns are observed in the following locations:

- a. Old Tappan Road west and east. During the course of a one-year period in 1977, there were 20 accidents involving property damage, and eleven accidents involving bodily injury with a total of 31 accidents on this single, long thoroughfare of Old Tappan. During the course of the first ten months of 1978, this pattern repeated itself when there occurred 18 property damage accidents, and 7 bodily injury accidents again. A similar pattern seems to have repeated itself



- PROPERTY DAMAGE
- * BODILY INJURY



0 500 1000
SCALE IN FEET

ACCIDENT DISTRIBUTION
1978, TO OCTOBER 17
BOROUGH OF OLD TAPPAN
BERGEN COUNTY, NEW JERSEY
 SCALE: 1" = 500'
 SEPTEMBER 1978
 BOORMAN & DORRAN, INC. CONSULTANTS

18

SOURCE:
 OLD TAPPAN POLICE DEPT.
 OCTOBER 1978
 SOURCE OF DATA:
 OFFICIAL TAP MAP, 1978
 REVISED AS LETTER NO. 78

also on Central Avenue, where in 1977 there was a fatal accident, 5 bodily injury accidents, and 5 property damage accidents. This pattern repeated itself in 1978, when there were 5 injury accidents and 7 property damage accidents on the same stretch of road during a ten-month period. Other accident prone areas are Cripple Bush Road near its intersection with Westwood Avenue, Washington Avenue north at the bend near the Reservoir, and Orangeburgh Road north near the DeWolf Road intersection.

*

VI. COMMUNITY FACILITIES-SCHOOLS

This chapter contains research and back-up information for Old Tappan short range school enrollment projections. From these projections we note that in the near future it is not expected that Old Tappan students will require additional classroom space.

The following Table CF-I, Birth and Death Statistics, Old Tappan Borough, 1968-1977, indicates the trends for the past ten years of natural births over deaths to Old Tappan residents. Thus, we see that over the past ten years births in Old Tappan have exceeded deaths by an average of 18 in each year of the decade.

Table CF-II presents the statistics for the Certificates of Occupancy issued for new dwelling units during the 1968-1978 period. We can see from this table that generally the trends since 1972 have been mostly declining. Two years ago, 1976 marked a ten-year low with only eleven permits issued. Last year there was slightly more building activity when 14 permits were issued (1977). In our opinion, these statistics indicate two things:

1. As the years go by available developable, vacant and buildable lands in Old Tappan are getting scarcer and scarcer.
2. The cost of land, financing, labor and materials are rising due to inflation and the cost of new homes becomes increasingly more difficult to afford by families with median incomes.

Table CF-III presents the statistical data for the past ten years and some projections of the births to resident mothers as related to kindergarten enrollments. This information is then used in the projections for kindergarten enrollments prepared grade-by-grade as presented in Table CF-V.

Table CF-IV presents the grade-by-grade public school enrollment trends for the 1971-1978 period. From this table

it can be noted that since the 1973-1974 school year, K-8 enrollments have declined every year.

Table CF-V presents the short range projections of the K-8 public school enrollments for the 1979-1983 period. From this table it can be noted that it is predicted that enrollments will continue to decline for the near future until 1983.

Table CF-VI presents the public high school trends for grades 8-12 for the 1971-1973 period. From this table it can be noted that since 1974-1975 enrollments have declined every year.

Table CF-VII presents the public high school grades 8-12 short range projections for Old Tappan students for 1979-1984. From this table it can be noted that a continuous and gradual decline in enrollments is expected for each of the next five years.

Tables CF-VIII and CF-IX present area statistics from the Open Space and Recreation Inventory Study of the Bergen County Planning Board, Report No. 26, dated February 1975.

TABLE CF-I

BIRTH AND DEATH STATISTICS

OLD TAPPAN BOROUGH, BERGEN COUNTY, NEW JERSEY

1968 - 1977

<u>Year</u>	<u>Births to Resident Mothers</u>	<u>Deaths to Old Tappan Residents</u>	<u>Net Change</u>
1968	29	5	+24
1969	36	4	+32
1970	31	5	+26
1971	31	7	+24
1972	25	6	+19
1973	23	8	+15
1974	31	7	+24
1975	32	16	+16
1976	28	28	0
1977	22	19	+ 3
1978 (1st six months)	14	15	- 1
Ten-Year Total	302	120	+182

Source: Registrar of Vital Statistics, September 1978

TABLE CF-II

CERTIFICATES OF OCCUPANCY ISSUED FOR NEW DWELLING UNITS

OLD TAPPAN BOROUGH, NEW JERSEY

1968 - 1978

<u>Year</u>	<u>Certificates of Occupancy</u>
1968	41
1969	47
1970	29
1971	24
1972	36
1973	22
1974	23
1975	13
1976	11
1977	14
1978 (first 10 months)	<u>10</u>
11.8 year total	<u>270</u>

Source: Borough Building Inspector, 1978

TABLE CF-III

BIRTHS TO RESIDENT MOTHERS RELATED TO KINDERGARTEN ENROLLMENTS

OLD TAPPAN BOROUGH, BERGEN COUNTY, NEW JERSEY

1968 - 1983

<u>Year</u>	<u>Number of Births to Resident Old Tappan Mothers*</u>	<u>Year Children Would Enter Kindergarten</u>	<u>Actual or ** Projected Kindergarten Enrollments For this year</u>	<u>Ratio of Kindergarten Enrollments to Births Five Years Before</u>
1968	29	1973	76	2.6
1969	36	1974	63	1.8
1970	31	1975	63	2.0
1971	31	1976	65	2.1
1972	25	1977	41	1.6
1973	23	1978	42	1.8
1974	31	1979	62 ***	2.0
1975	32	1980	64	2.0
1976	28	1981	56	2.0
1977	22	1982	44	2.0
1978(1st six months)	14	1983	56	2.0

Source: *Register of Vital Statistics, September 1978

** Old Tappan Board of Education

*** Projections by Boorman and Dorram, Inc.

TABLE CF-IV

PUBLIC SCHOOL ENROLLMENT TRENDS, 1971 - 1978

OLD TAPPAN BOROUGH, BERGEN COUNTY, NEW JERSEY

<u>Grade</u>	<u>1971-72</u>	<u>1972-73</u>	<u>1973-74</u>	<u>1974-75</u>	<u>1975-76</u>	<u>1976-77</u>	<u>1977-78</u>	<u>1978-79</u>
K	91	84	76	63	63	65	41	42
1	87	100	94	77	68	64	64	44
2	97	94	109	92	86	63	60	62
3	113	97	96	107	90	83	62	56
4	113	107	103	96	108	88	85	67
5	106	114	108	101	96	110	89	87
6	113	107	118	114	98	95	109	83
7	97	116	109	124	114	99	94	103
8	113	94	115	110	122	114	101	97
Special Education 15		10	14	8	6	8	8	8
Total	945	923	942	892	851	789	713	649
Change from preceding year	-5%	-2%	+2%	-5%	-5%	-7%	-10%	-9%

AGE GROUP COHORTS * CHANGE BY PERCENTAGE

	<u>1971-72</u>	<u>1972-73</u>	<u>1973-74</u>	<u>1974-75</u>	<u>1975-76</u>	<u>1976-77</u>	<u>1977-78</u>
	to	to	to	to	to	to	to
	<u>1972-73</u>	<u>1973-74</u>	<u>1974-75</u>	<u>1975-76</u>	<u>1976-77</u>	<u>1977-78</u>	<u>1978-79</u>
K-1	1.10	1.12	1.01	1.08	1.02	.98	1.07
1-2	1.08	1.09	.98	1.12	.93	.94	.97
2-3	1.00	1.02	.98	.98	.97	.98	.93
3-4	.95	1.06	1.00	1.01	.98	1.02	1.08
4-5	1.01	1.01	.98	1.00	1.02	1.01	1.02
5-6	1.01	1.04	1.06	.97	.99	.99	.93
6-7	1.03	1.02	1.05	1.00	1.01	.99	.94
7-8	.97	.99	1.01	.98	1.00	1.02	1.03

Source: Old Tappan Board of Education

An "Age Group Cohort" is the number of school children in a grade, which moves to the next higher grade in each ascending year.

TABLE CF-V

SHORT RANGE PROJECTION OF K - 8 PUBLIC SCHOOL ENROLLMENTS

1979 - 1983, OLD TAPPAN BOROUGH, NEW JERSEY

<u>Grade</u>	<u>1979-80</u>	<u>1980-81</u>	<u>1981-82</u>	<u>1982-83</u>	<u>1983-84</u>
K	62	64	56	44	56
1	44	65	67	59	46
2	43	43	64	66	58
3	61	42	42	63	65
4	59	65	45	45	67
5	68	60	66	46	46
6	85	67	59	65	45
7	81	83	66	58	64
8	105	33	85	67	59
Special Education	<u>8</u>	<u>8</u>	<u>8</u>	<u>8</u>	<u>3</u>
Total	616	530	558	521	514
Change from preceding year	-5%	-6%	-4%	-7%	-1%

BASIS FOR PROJECTIONS:

Kindergarten enrollment from births five years before (Table CF-III).

Percent age group cohort changes projected for the remaining grades.

K-1	1.05
1-2	.98
2-3	.98
3-4	1.06
4-5	1.02
5-6	.98
6-7	.98
7-8	1.02

Special Education from Board of Education estimate of future enrollments.

TABLE CF-VI

PUBLIC HIGH SCHOOL ENROLLMENT TRENDS, 1971 - 1978

OLD TAPPAN BOROUGH, BERGEN COUNTY, NEW JERSEY

<u>Grade</u>	<u>1971-72</u>	<u>1972-73</u>	<u>1973-74</u>	<u>1974-75</u>	<u>1975-76</u>	<u>1976-77</u>	<u>1977-78</u>	<u>1978-79</u>
8	113	94	115	110	122	114	101	97
9	112	114	97	114	102	112	94	80
10	95	103	116	98	110	99	108	88
11	85	91	98	110	96	112	95	93
12	<u>87</u>	<u>88</u>	<u>98</u>	<u>94</u>	<u>106</u>	<u>94</u>	<u>107</u>	<u>90</u>
Total								
9-12	380	396	409	416	414	417	404	351
Change from preceding year	+10%	+4%	+3%	+2%	0%	+1%	-3%	-13%

AGE GROUP COHORTS * CHANGES BY PERCENTAGE

	<u>1971-72</u>	<u>1972-73</u>	<u>1973-74</u>	<u>1974-75</u>	<u>1975-76</u>	<u>1976-77</u>	<u>1977-78</u>
	to	to	to	to	to	to	to
	<u>1972-73</u>	<u>1973-74</u>	<u>1974-75</u>	<u>1975-76</u>	<u>1976-77</u>	<u>1977-78</u>	<u>1978-79</u>
8-9	1.01	1.03	.99	.92	.92	.82	.79
9-10	.92	1.02	1.01	.96	.97	.96	.94
10-11	.96	.95	.95	.98	1.02	.96	.86
11-12	1.04	1.08	.96	.96	.98	.96	.95

Source: Old Tappan Board of Education

* An "age group cohort" is the number of school children in a grade, which moves to the next higher grade in each ascending year.

TABLE CF-VII
SHORT RANGE PROJECTIONS OF OLD TAPPEN PUBLIC HIGH SCHOOL
ENROLLMENTS, 1979-1983

NORTHERN VALLEY REGIONAL HIGH SCHOOL*

<u>Grade</u>	<u>1979-80</u>	<u>1980-81</u>	<u>1981-82</u>	<u>1982-83</u>	<u>1983-84</u>
8	105	33	35	67	59
9	30	36	63	70	55
10	76	76	82	65	67
11	34	72	72	78	62
12	<u>38</u>	<u>30</u>	<u>63</u>	<u>63</u>	<u>74</u>
Total					
9-12	328	314	290	281	258
Change from preceding year	-7%	-4%	-3%	-3%	-3%

BASIS FOR PROJECTIONS:

Age group cohort changes projected for the remaining grades:

8-9	.32
9-10	.95
10-11	.95
11-12	.95

*Projections applicable to students from Old Tappan only. The Regional High School accomodates students from Old Tappan, Harrington Park, Norwood, North Vale, and Rockleigh Boroughs.

TABLE CF-VIII

QUASI-PUBLIC, PRIVATE AND COMMERCIAL RECREATION FACILITIES

OLD TAPPAN BOROUGH, NEW JERSEY, 1975 *

	<u>Number</u>	<u>Area in Acres</u>
Swim Clubs	2	49
Racquet Club	1	<u>9</u> Courts
Total Area:		49

TABLE CF-IX

EDUCATIONAL FACILITIES

OLD TAPPAN BOROUGH, NEW JERSEY, 1978 **

	<u>Area in Acres</u>
Number of Public Schools, K - 12 . . . 3	45.8
Recreation Plus Vacant Acres	18
Number of Libraries . . . 1	

* Source: Open Space and Recreation Inventory, Bergen County
Planning Board Report, No. 26, page 44, February 1975

** Source: Ibid, page 50

