Town of New Scotland

ALBANY COUNTY
NEW YORK

MAY, 1994

COMPREHENSIVE LAND USE PLAN

AND

GENERIC ENVIRONMENTAL IMPACT STATEMENT

prepared by the
Town of New Scotland Planning Board

Town of New Scotland
BUILDING - ZONING DEPARTMENT

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Town of New Scotland

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ACKNOWLEDGMENTS

This report would not have been possible without the dedication of the New Scotland Planning Board whose members supervised its preparation from start to finish.

Many municipal, county and regional officials provided additional information and policy insights during the preparation of this document. In addition, Town residents and members of not-for-profit groups participated in public meetings which led to the development of a vision for the community.

On behalf of the Town Board, the consultant, C.T. Male Associates, P.C., wishes to thank these many individuals for their dedication during the comprehensive planning process.

Section I. Introduction

The Town of New Scotland, New York, is a rural residential community only miles from the City of Albany and adjacent to the suburban towns of Guilderland and Bethlehem. Largely because of its location within the expanding Capital District, New Scotland has recently begun to experience substantial development pressure as the proposed site of several large scale subdivisions, business and commercial operations.

Development requires additional municipal services. The cost of providing local government and schools has risen rapidly in the past several years. At the same time, withdraw of state and federal funding has necessitated a greater reliance on local government to provide these services.

The Town welcomes growth. But it needs to assure that sufficient municipal services and facilities can be provided to accommodate development without posing a financial hardship to Town residents. In addition, its rural character should be preserved. In order to accomplish these goals, the community needs to plan for future development.

The first plan for the Town of New Scotland was completed in 1960. Known as the "Long Range Development Plan", this document was the foundation for creating the Town's first zoning and subdivision ordinances. These ordinances function as tools used to guide development in accordance with the goals and objectives of the community's long range plan.

The initial plan has served well. However, as with all plans, updates and modifications are periodically required. Technologies, population characteristics and real estate trends are constantly changing. For these reasons, the Town Board determined the need to update and revise the Town's Comprehensive Land Use Plan.

The purpose of the revision was to update the existing environmental inventory, analyze growth potentials, re-evaluate the goals and objectives of the Land Use Plan, and, based on the conclusions drawn in the revised Land Use Plan, make necessary adjustments to Town zoning and subdivision regulations. It should be noted that the document produced is an update of the 1960 "Long Range Development Plan". It is not a new Comprehensive Land Use Plan.

The revised Comprehensive Land Use Plan presented here outlines a program to provide orderly but limited growth, while retaining the basic character of the community. The Plan encourages preservation of environmental and cultural resources. In addition, it provides a basis from which to draw a capital improvements plan.

The plan is to be implemented through day to day incremental actions (taxation, spending, zoning, re-zoning and municipal services). It serves as a frame of reference against which to measure the merits of short-term actions. The long-term policies contained should be referred to as a guide when developing bylaws and specific programs.

The Plan for New Scotland needs to meet three criteria. It must be general, by putting forth broad land development policies to shape the future; long-range, in that it prepares for development over the next 20 years; and comprehensive, having given consideration to the diverse issues influencing municipal growth and land development.

A. The Comprehensive Planning Process

1. Methodology

Revisions to the Comprehensive Land Use Plan were carried out by the Town of New Scotland Planning Board with the assistance of C.T. Male Associates as consultants for data acquisition and analysis, computer assisted mapping and completion of the Comprehensive Land Use Plan Document. C.T. Male Associates also completed investigations on projected traffic patterns and potable water resources for the Town.

The revisions were based on input from Town residents. This document also reflects the advice and input of the consultant but ultimately, the policies and recommendations are those of the people of the Town of New Scotland.

2. Public Participation

Public input is essential to sound land use planning. It is this input that leads to the establishment of town-wide goals and objectives for directing future development.

Public input for this land use study was solicited from residents through a series of six public meetings held in each of the Town's hamlet regions, as well as through a mailing of the draft Goals and Objectives to forty three organizations and concerned citizen's groups.

3. Mapping and Analysis

Environmental and cultural features of the Town were inventoried, recorded in digital map format and analyzed. These features were over-laid to evaluate land's natural ability to support development. In addition, maps of specific characteristics were generated where appropriate.

A demographic analysis was conducted to present population characteristics, housing and economic trends. Population projections to 2010 were made and the form of future development was investigated.

4. Implementation

Based on the results of the mapping and analysis it was possible to make detailed recommendations for modifying the requirements of the Town's zoning and subdivision regulations and present other recommendations for municipal action. The land use recommendations presented must be incorporated into the Town's ordinances and enforced during reviews of proposed future developments. The other recommendations made should be implemented by the Town Board as seen fit.

B. Summary of Surveys and Public Meetings

1. Initial Public Meetings

Comments from Town residents and community groups provided the foundation for revising the Goals and Objectives of the Comprehensive Land Use Plan. Public concerns were expressed in several areas:

a. Rural Character

The Town's people expressed great concern over the rural character of the Town. It was perceived that present development trends are allowing too much of the Town's open space to be lost to development and that this development is not in keeping with traditional growth patterns. Suggestions for improving this condition included: limiting population densities; re-distributing housing densities; preserving open space through clustering and creating a citizens advisory committee for review of open space policies.

b. Economic Development

Three main concerns were expressed about business enterprise in the Town. There was a general desire to promote commercial and industrial developments in Town. A general preference was expressed for office park development over heavy manufacturing. Small scale stores were the preferred type of commercial development; large "regional malls" were not favored.

Economic development was viewed from a different perspective in the hamlet districts. It was perceived that commercial ventures within hamlets are overtaking and destroying the small town character possessed by these areas.

c. Helderberg Escarpment and other Significant Land Features

Among the top issues raised in the public meetings was the need to limit development along the Helderberg Escarpment in order to protect the scenic beauty this land feature lends to the Town. Suggestions included purchasing scenic easements, creating a land trust for gifted land and limiting development densities.

Other environmental features noted as worthy of protection included wetland areas, forested lands, waterways, the Clarksville Caves, the Onesquethaw (falls) and Flat Rock Creek. Though some of these requests are rather specific, they indicate the desire to protect natural features from adverse development impacts.

d. Historic Features

Protection of historically significant features also ranked highly. Preservation actions suggested ranged from tax incentives to initiating a historic marker program and establishing historic districts.

e. Zoning District Changes

Numerous zoning district changes were requested, some of which made sound planning sense and others which tend not to serve the Town's overall best interests.

A number of requests were made to change the existing industrial zones to other uses. While eliminating industrial zones is in direct opposition to the requests to improve the Town's tax base by encouraging industry, manufacturing and commercial ventures to locate in the Town, some changes in industrial classifications were discussed.

f. Lot Size Issues

Numerous requests for changes in minimum lot sizes were filed. One suggestion was to limit lot sizes based on soil suitability and availability of municipal water and sewer. Most other commentors favored raising minimum lot sizes to no less than one acre throughout the Town, particularly where municipal water and sewer is unavailable. Additional suggestions included raising the minimum lot size in R-A districts to two acres where clay soils are present, and raising the minimum lot size in R-F zones to five acres in areas above the escarpment having bedrock at or near the surface.

Caution must be taken when responding to requests that would increase minimum lot sizes everywhere in the Town above one half acre. Large lots often attract housing so high priced that moderate income households are effectively excluded. In addition, large lot zoning can result in a quick loss of rural character by requiring that every home be spread far apart; under large lot zoning, land is still developed in the standard lot by lot, 'cookie cutter', fashion, only the lots are larger and fewer. More innovative forms of zoning can require development to be concentrated in a certain area of a parcel and the remaining land be established as an uninterrupted, forever undeveloped area.

g. Infrastructure and Water Supply Resources

A primary concern of the residents was the need to expand and protect the Town's water supply resources. A comprehensive study of water resources (to include exploring new water resources, protecting water quality from pollution, identifying funding sources for water supply improvements and requiring proof of water quality prior to allowing development of residential housing) was requested.

h. Miscellaneous Concerns and Comments

A number of miscellaneous issues were also raised which did not fit into any of the previous categories. The need to improve the image of the Town entrances was expressed. Ideas included regulating signs, improving landscaping, and identifying Town boundary lines. Traffic was identified as needing additional evaluation. The Krumkill Road area was specifically discussed. It was also requested that an analysis be done on landfills and anti-dumping laws. Finally, it was requested that a periodic review process be established to up-date the Comprehensive Land Use Plan.

Charts 1-1 through 1-5 identify specific comments received during the public meetings. A source for each comment is indicated.

CHART 1 - 1

COMMENTS AND SUGGESTIONS

		FIVE RIVERS ENVIRONMENTAL CENTER	CONCERNED CITIZENS FOR NEW SCOTLAND	FEURA BUSH NEIGHBORHOOD ASSOCIATION	NEW SCOTLAND HISTORICAL ASSOCIATION	CLARKSVILLE NEIGHBORHOOD ASSOCIATION	KRUMKILL, NORMANSKILL, FONT GROVE, HILTON, WORMER HOME OWNERS ASSOCIATION	CLARKSVILLE PUBLIC MEETING	UNIONVILLE PUBLIC MEETING	ESCARPMENT AREA PUBLIC MEETING	NORTHEAST SECTION PUBLIC MEETING	FEURA BUSH PUBLIC MEETING	NEW SALEM AREA PUBLIC MEETING
	Preservation of Rural Character and Open Space												
A.	Preserve rural nature of lands around Five Rivers.	X											
B.	Maintain rural town character.	X				X							X
C.	Limit population density - Higher density around hamlets, lower outside.					X						X	X
D.	Maintain agricultural integrity and visual quality of the Town.					X		X					
E.	Preserve rural nature around Thatcher Park.									X			
F.	Inhibit large scale subdivision development in rural agricultural and forest land.												X
G.	Maintain open space in Town.	X			X								X
H.	Preserve Vlomankill and Phillipinkill Valleys as open space.	X											
I.	Preserve open space through cluster development.		X					X					X
J.	Establish Citizen Advisory Committee for review of open space policies.		X										

CHART 1 - 2

COMMENTS AND SUGGESTIONS

		FIVE RIVERS ENVIRONMENTAL CENTER	CONCERNED CITIZENS FOR NEW SCOTLAND	FEURA BUSH NEIGHBORHOOD ASSOCIATION	NEW SCOTLAND HISTORICAL ASSOCIATION	CLARKSVILLE NEIGHBORHOOD ASSOCIATION	KRUMKILL, NORMANSKILL, FONT GROVE, HILTON, WORMER HOME OWNERS ASSOCIATION	CLARKSVILLE PUBLIC MEETING	UNIONVILLE PUBLIC MEETING	ESCARPMENT AREA PUBLIC MEETING	NORTHEAST SECTION PUBLIC MEETING	FEURA BUSH PUBLIC MEETING	NEW SALEM AREA PUBLIC MEETING
	Environmental and Cultural Protection												
A.	Protect wetlands from toxic wastes, residential septic and industrial pollutants.	X											
B.	Establish a land trust for donated, gifted and acquired land for recreation & scenic easements.	X						X					
C.	Initiate historic building marker program and historic register for districts.				X								
D.	Supply tax abatements and incentives for preservation of historic areas.				X			X					
E.	Protection of environmentally sensitive areas including provision for TDR and easement.				X			X					X
F.	Minimize building on the Helderberg Escarpment.				X			X					
G.	Preserve escarpment as a scenic easement.							X		X			
H.	Limit development that will destroy forested areas.					X				X			
I.	Protect geographic features - waterways, Clarksville Caves, Onesquethaw Falls.					X							
J.	Limit forest cutting and clearing for development.									X			
K.	Protect Feura Bush Town Park - Designate as critical environmental area.											X	
L.	Protect Flat Rock Creek.											X	
												X	
												X	

CHART 1 - 3

COMMENTS AND SUGGESTIONS

		FIVE RIVERS ENVIRONMENTAL CENTER	CONCERNED CITIZENS FOR NEW SCOTLAND	FEURA BUSH NEIGHBORHOOD ASSOCIATION	NEW SCOTLAND HISTORICAL ASSOCIATION	CLARKSVILLE NEIGHBORHOOD ASSOCIATION	KRUMKILL, NORMANSKILL, FONT GROVE, HILTON, WORMER HOME OWNERS ASSOCIATION	CLARKSVILLE PUBLIC MEETING	UNIONVILLE PUBLIC MEETING	ESCARPMENT AREA PUBLIC MEETING	NORTHEAST SECTION PUBLIC MEETING	FEURA BUSH PUBLIC MEETING	NEW SALEM AREA PUBLIC MEETING
	Requested Zoning District Changes and Modifications												
A.	Change ind. zone adjacent to Five Rivers to RA or RF.	X											
B.	Rezone ind. between Feura Bush and Unionville to commercial.			X									
C.	Do not allow any commercial in Hamlet of Unionville.									X		X	
D.	Rezone small area at intersection of Rt. 443 & 85 for Convenience store.					X							
	Change all RA from 1 Ac. to 2 Ac. w/o water and sewer if clay soils present.				X								
F.	Keep all current zoning districts as they presently are.					X							
G.	Where areas of bedrock exist in RF zone, increase min. lot to five acres.							X		X			
H.	RH zone in Unionville to allow as of right two-family or change to RA.								X				
I.	Keep RF as it is above escarpment.									X			
J.	Increase lot size min. in hamlets to 1 acre w/o water and sewer.												X
K.	Swift Road to have min. 1 acre lot w/o water and sewer.												X
L.	Limit development on Pinnacle Road.									X			
M.	Hamlet zoning not currently successfull, needs improvement.										X		
N.	Allow rental units in RH zones.									X			
O.	Provide congruent zoning and property lines in commercial and industial zones.		X										
P.	Increase minimum lot size to 1-1/2 acre in northeast portion of the Town.						X						
Q.	Provide housing for moderate income residents.							X					X
R.	No trailer courts or parks/restrict housing to permanent structures.								X				

CHART 1 - 4

COMMENTS AND SUGGESTIONS

		FIVE RIVERS ENVIRONMENTAL CENTER	CONCERNED CITIZENS FOR NEW SCOTLAND	FEURA BUSH NEIGHBORHOOD ASSOCIATION	NEW SCOTLAND [illegible]AL ASSOCIATION	CLARKSVILLE NEIGHBORHOOD ASSOCIATION	KRUMKILL, NORMANSKILL, FONT GROVE, HILTON, WORMER HOME OWNERS ASSOCIATION	CLARKSVILLE PUBLIC MEETING	UNIONVILLE PUBLIC MEETING	ESCARPMENT AREA PUBLIC MEETING	NORTHEAST SECTION PUBLIC MEETING	FEURA BUSH PUBLIC MEETING	NEW SALEM AREA PUBLIC MEETING
	Economic Development Considerations												
A.	Promotion of responsible business, comm. and industrial development.		X								X		X
B.	Clarify guidelines for types of comm. and business development.		X								X		
C.	Clear policy regarding regulation of mining and mineral development.		X										
D.	Develop a business park rather than industrial parks.			X									X
E.	Increase min. lot size to 1-1/2 acres in northeast portion of Town.		X					X					
F.	No mining in Krumkill, Normanskill, Font Grove, Hilton and Wormer HOA District.						X						
G.	Town junk yard and/or town run solid waste disposal.								X		X		
H.	Home occupation business in hamlets.								X				
I.	Tax reduction for active farms.									X			X
J.	Clean business rather than residential.												X
K.	Commercial overtaking residents on main streets in hamlets - Preserve small town character.											X	
L.	Improve design standards for industrial and commercial development.										X	X	

CHART 1 - 5

COMMENTS AND SUGGESTIONS	FIVE RIVERS ENVIRONMENTAL CENTER	CONCERNED CITIZENS FOR NEW SCOTLAND	FEURA BUSH NEIGHBORHOOD ASSOCIATION	NEW SCOTLAND HISTORICAL ASSOCIATION	CLARKSVILLE NEIGHBORHOOD ASSOCIATION	KRUMKILL, NORMANSKILL, FONT GROVE, HILTON, WORMER HOME OWNERS ASSOCIATION	CLARKSVILLE PUBLIC MEETING	UNIONVILLE PUBLIC MEETING	ESCARPMENT AREA PUBLIC MEETING	NORTHEAST SECTION PUBLIC MEETING	FEURA BUSH PUBLIC MEETING	NEW SALEM AREA PUBLIC MEETING
Infrastructure and Water Supply Resources												
A. Complete a comprehensive review of the Town's available water resources.		X										X
B. Complete a comprehensive review of the Town's infrastructure.		X										
C. Explore and protect the Town's limited, existing and potential water resources.		X										X
D. Identify potential funding sources for water improvement.		X										
E. Protect water quality from pollution and degradation.					X		X					X
F. Supply public water and sewer to the northeast portion of the Town.						X						
G. Require proof of water quality prior to allowing development.							X					
Miscellaneous Concerns and Comments												
A. Provide definative steps for updating plan w/fixed time table for updates.		X							X			
B. Limit review process time and increase discretion in review process.		X				X	X					
C. Limit multi-family, high-density, single-family housing in northeast section.						X						
D. Identify impacts of additional traffic on Krumkill Road.						X						
E. Exclude additional utility company transmission towers.									X			
F. Anti-dumping ordinance - Include in Land Use Plan recommendations.										X		
G. Improve gateways to the Town - Sign control, landscaping.											X	

2. Public Comment on the Draft Comprehensive Land Use Plan, 1990

In the fall of 1990, public comment on the draft Comprehensive Land Use Plan, prepared in response to initial public input, was solicited by newspaper advertisement and at public hearings. In order to facilitate the most in depth public discussions, the Town was sectioned into 6 areas prior to the public hearings. Each public hearing concentrated on specific issues effecting one individual area. The areas and their respective hearing dates were as follows: New Salem area: September 13, 1990; New Scotland (hamlet): September 17, 1990; Unionville: September 19, 1990; Feura Bush: September 26, 1990; Clarksville: October 3, 1990; New Scotland Town Hall: October 10, 1990.

a. Comments Related to Zoning Classifications Presented in the Draft Comprehensive Plan

The final section of the draft Comprehensive Land Use Plan (Section X) contained specific recommendations as to the permitted land uses and densities to be prescribed in Town zoning to implement policies of the Plan. Most written and verbal comments concerned the zoning classifications which were recommended and how those classifications applied to specific properties. Other comments concerned the number of zones and development density (in a more general sense).

Following the public hearings on the draft Plan, the last section of the plan, which contained the zoning recommendations, was reevaluated and revised to orient any recommendations to focus on patterns of development, rather than densities and zoning classifications. Section X in the revised Plan recommends appropriate land use categories and intensities, but specific classifications appearing in the draft Plan have been omitted. They will be developed as necessary in the future by the Town Board.

b. Policy Issues

Several other policy issues raised during the hearing process have been addressed by the Comprehensive Plan Committee. They are outlined here.

Home Occupations

One written commentor questioned how home occupations will be regulated. The comment was made in reference to an objective in the draft Plan which states that home occupations, "incompatible" with surrounding land-uses, should be eliminated. The commentor advised that home occupations should be regulated on a case by case basis by a set of broad criteria. Maximum flexibility in making the final decision should rest with the Town.

Preservation of Historic Character - the Clipp Road Area

A written argument was presented as to the dependence of rural character on preservation of historic structures (farm houses, etc.). The commentor addressed the argument to the Clipp Road area and presented documentation of historic structures in that area. The commentor advised that the area be protected using the following methods: architectural standards; revision of the environmental

description contained in the Plan (to include documentation of historic structures within the Clipp Road area); and, reclassification of the area into a more restrictive category (to reflect historic character).

Agriculture and Forest Management Zoning

A series of commentors argued that the larger lot zoning recommended for agricultural and forested areas in the draft Plan would cause a hardship to owners because owners would loose the right to create smaller individual lots where environmental conditions allow (i.e. the ability to site water wells and septic systems). The ability to utilize or sell off smaller lots (1 acre or less) has given extra value to large land parcels, and, on a limited basis, does not threaten rural character or environmental quality. In fact, smaller lots in agricultural areas are an excellent source of affordable housing for family members and workers.

Opportunities for Industrial Development

Several comments were made about the location and quantity of industrial lands recommended in the draft Plan. Commentors ranged from those who felt that there was too little industrial land recommended, to those who believed there was too much.

Shared facilities and services with the Town of Bethlehem

A written statement was submitted which outlined the long history between the Towns of New Scotland and Bethlehem, and their respective water supplies. The commentor suggested that future water and sewer ventures may be most economical if implemented as cooperative ventures, using Bethlehem's existing water hardware (e.g. mains) which run through New Scotland along New Scotland Road. The commentor argued that efficient future service delivery in New Scotland is linked to Bethlehem. As such, the Towns should work together to their mutual benefit.

Section II. Goals and Objectives for Control of Development

The goals and objectives of the comprehensive plan establish a set of policies which guide the land development regulatory process. The goals and objectives state a series of principles, or ideals, against which the effects of incremental land development decisions are to be measured.

GOAL: TOWN CHARACTER AND ENVIRONMENT

To protect and enhance the current Town character and high quality environment while accommodating a mix of residential, commercial, light industrial/manufacturing, agricultural and office uses.

I. Policies: Natural Environment

- **A. To identify, floodplains, floodways, stream corridors, wetlands, water supply resources, steep slopes, vistas, cultural and historic resources, watersheds, parklands, unique geological features, and agricultural lands.**
- **B. To identify and protect areas of critical environmental importance.**
- **C. To monitor, as necessary, the storage, collection and disposal of solid waste, junk and debris and restrict the transportation thereof.**
- **D. To provide guidelines for removal of natural cover and mining.**

II. Policies: Open Space

- **A. To maximize buffer areas adjacent to stream corridors, wetlands, steep slopes and vistas.**

B. To develop and implement special land use mechanisms to preserve and stabilize open space.

C. To establish buffer zones and screening around commercial, industrial and residential subdivisions to enhance visual quality.

D. To encourage and provide for cluster (reduced lot size) development to maximize open space.

E. To establish the framework and duties for Conservation/Land Preservation Advisory Committees within the Town.

III. Policies: Townscape

A. To improve the appearance of major gateways to the Town, i.e. in particular the Rt. 32 approach to Feura Bush.

B. To improve the appearance of major thoroughfares (Rt.85, Rt.443, Rt.32 and Rt.155) through design standards, sign controls and capital improvements.

C. To encourage development in hamlet areas and discourage sprawl.

D. To identify appropriate locations for radio, T.V., transmission towers, etc..

E. To recognize historical heritage and structures.

GOAL: ECONOMIC DEVELOPMENT

To improve the local economy and tax base by encouraging economic development and expanding clean light industrial/manufacturing, commercial and office activities and jobs in balance with New Scotland's existing character.

I. Policies: Economic Development Plan

A. To create a development plan to encourage offices, light industry and manufacturing.

B. To create an Economic Development Committee to pursue the development plan.

C. To develop public infrastructure to accommodate business and light industrial/manufacturing development.

II. Policies: Light Industrial

A. To encourage appropriate aesthetics through the site plan approval process, in order to improve the visual character of highway business zones.

B. To provide for home occupations and businesses which are compatible with surrounding land uses along major highways.

III. Policies: Hamlets

A. To promote definite hamlet boundaries and encourage higher intensity use of these areas through restoration of community center character, allowing for appropriate mixes of residential, commercial, office uses and public service uses.

B. To allow home occupations and businesses which are compatible with surrounding land uses within hamlet areas.

IV. Policies: Industrial

A. To encourage light industry and manufacturing to locate in industrial/manufacturing zones.

B. To reserve appropriate land for industrial purposes.

C. To provide the necessary infrastructure to make industrial/manufacturing zones attractive to new businesses.

D. Ensure that traffic, noise, odors and other negative environmental impacts are minimized to the extent possible.

GOAL: INFRASTRUCTURE AND COMMUNITY FACILITIES

To administer municipal water, roadways, recreation and other public services efficiently, and to continue to work with other government agencies to plan for appropriate education and sanitation facilities, and public utilities.

I. Policies: Capital Planning

A. To establish a capital improvement planning process in the Town for all facilities and involve citizens, public officials, Town staff and school officials.

II. Policies: Highways/ Bridges

A. To identify potential funding programs for highway and bridge maintenance and construction including recommendations for State, County, and local revenues, grants and/or bonding and developer fees.

B. To identify potential projects in cooperation with State and County agencies to upgrade highways/bridges, construct new highways/ bridges, improve appearance/drainage and safety and prepare for future traffic growth including early acquisition of right-of-ways.

III. Policies: Parks and Recreation

A. To evaluate park facilities and prepare a plan for maintenance and improvement of existing facilities and construction of new facilities.

IV. Policies: Water and Sewer

A. To plan for the exploration and development of water sources and facilities in tandem with growth.

B. To outline a plan for protection of existing or potential water sources.

C. To develop independent standards for water and sewer facilities at residential, commercial and industrial development projects.

D. To participate in regional planning endeavours which seek to develop regional water and sewer facilities.

V. Solid Waste

A. To participate in regional planning endeavors which seek to establish long range solid waste management practices.

GOAL: LAND USE AND DEVELOPMENT

To promote a pattern of land use which provides sufficient space for the activities of Town residents, supports the efficient delivery of services and protects existing neighborhoods.

I. Policies: General

A. To identify the patterns of development and land use which have occurred in the Town of New Scotland and develop policies and guidelines to enhance and promote development patterns.

B. To modify Town zoning based on the policies of the Comprehensive Land Use Plan.

C. To modify zoning in the Town such that environmentally critical and sensitive areas and land use for agriculture and forestry are protected and maintained.

II. Policies: Residential

A. To provide for a range of housing densities.

B. To encourage infill and higher density uses in hamlet areas where appropriate infrastructure may be placed and where transportation systems can be improved to handle increased traffic.

III. Policies: Light Industry/Manufacturing

A. Encourage continued business development.

B. To have industries and manufacturers support a fair-share of public infrastructure costs.

IV. Policies: Commercial

A. To encourage mixed use development (office, commercial/retail and residential) where infrastructure can be provided.

B. To encourage appropriate signs, access routes, site plans and density controls in commercial areas.

GOAL: HOUSING

To provide a range of choices for safe and affordable housing for Town residents.

I. Policies: Housing

A. To assess housing needs of all resident groups including senior citizens, renters and first time homebuyers.

B. To identify available assistance for housing improvements and affordable housing construction.

C. To encourage maintenance and improvement of existing housing through code enforcement and other public improvements in neighborhood areas.

Section III. Environmental Considerations

The process of land use planning requires an inventory and analysis of natural, cultural and man-made features. Natural features, including topography, soils, bedrock geology, and watershed hydrology, determine to a large extent, the physical capability of land to support development.

Much of the undeveloped lands in New Scotland have physical limitations which restrict development. Unsuitable development characteristics include steep slopes, wetlands, shallow and/or surface bedrock formations and limited water resources.

The land characteristics in New Scotland have been thoroughly researched, analyzed and mapped during the planning process. A discussion of the topography, geology, wetlands, floodplains and watersheds is presented here. In addition, agricultural lands are discussed.

For environmental reasons, water resources are particularly significant to land development in New Scotland. Therefore, water resources were the subject of in-depth study, the findings of which are presented in Section IV.

A 'Development Suitability Map' which summarizes the land's ability to support development is presented at the end of this Section. It is the result of overlaying all environmental features (including those discussed in this Section and Section IV).

A. Topographic Analysis

1. Hillside Topography

An analysis of topographic features is imperative to sound land use planning. Severe and unstable slopes defined as over 15% gradient are often unsuitable for intensive development[1] in their natural form. They require special engineering practices to

[1]Intensive Land Uses are defined as uses which require considerable alteration to the existing natural environmental characteristics of the land. Impacts associated with intensive land uses include; potential for soil erosion, loss of soil permeability due to inclusion of large impervious surfaces, the requirement for substantial regrading and clearing of natural vegetation, and require public services beyond those

minimize environmental degradation.[2]

2. Low and Flatlands Topography

Development on nearly level slopes also poses construction complications. Slopes under 2% often indicate areas with potential drainage problems. Such flatlands typically correspond with wetlands and floodplains and should be protected from development that might reduce their beneficial characteristics.

3. Slope Classification Criteria

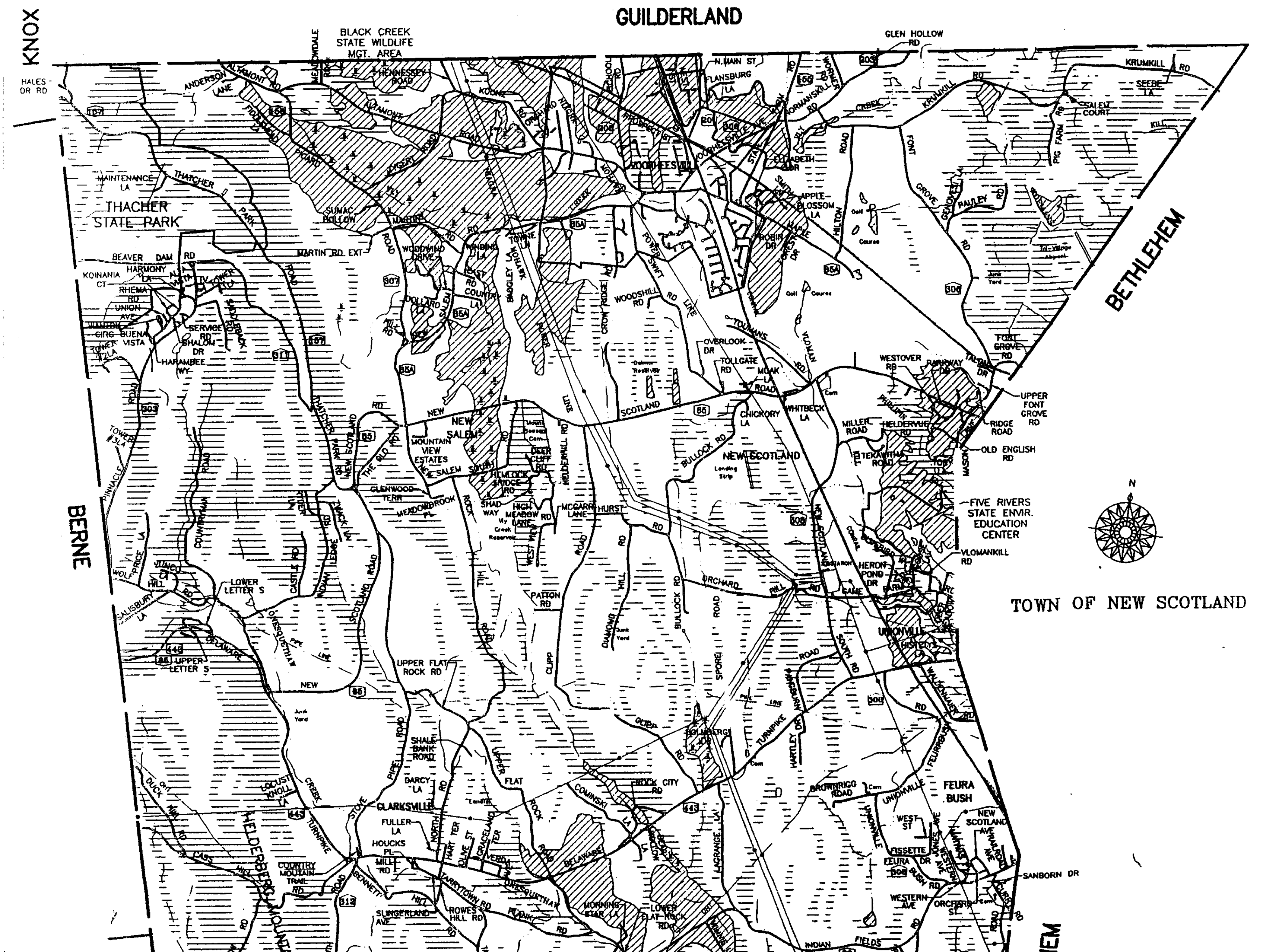
Based on the above, and also taking into account standard construction limitations due to slope percentages, three categories were established by which acceptable and unsuitable topographic features were evaluated. Slopes over 15% gradient were considered erodible and potentially unstable. Slopes 2% and less were considered poorly draining and likely to include wetlands and/or floodplains. Slopes between 2% and 15% were considered suitable for standard construction practices. These categories are shown on Figure 3-1, Slope Analysis Map.

4. Land Slopes Present

The Town contains about 22,150 acres of land with slopes between 2% and 15% (61% of total Town acreage) which are suitable for development. About 9,620 acres (or 27%) have slopes greater than 15% with the highest percentage of these steep slopes along the "Escarpment" sections of the Helderberg Mountain chain and the Normans Kill drainage basin. About 4,470 acres (or 12% of total acres) are considered flat with slopes 2% or less.

typically necessary of low density residential uses.

[2]Note: Poorly designed and constructed hillside developments frequently result in substantial costs to the public either for repairs to infrastructure or preventative measures to alleviate future damages such as soil erosion, landslides and visual quality degradation. Additionally, increased runoff and sedimentation from denuded hillsides often requires public expenditures for flood control, stormwater management or de-eutrophication of lakes, wetlands, streams and rivers.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THACHER STATE PARK
VOORHEESVILLE
NEW SALEM
NEW SCOTLAND
UNIONVILLE
FEURA BUSH
CLARKSVILLE
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KRUMKILL RD
SEEBE LA
SALEM COURT
MAINTENANCE LA
THATCHER PARK
BEAVER DAM RD
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HARMONY LA
RHEMA RD
UNION AVE
SERVICE RD
SHALOM DR
HARAMBEE WY
MARTIN RD EXT
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WOODSHILL RD
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TOLLGATE RD
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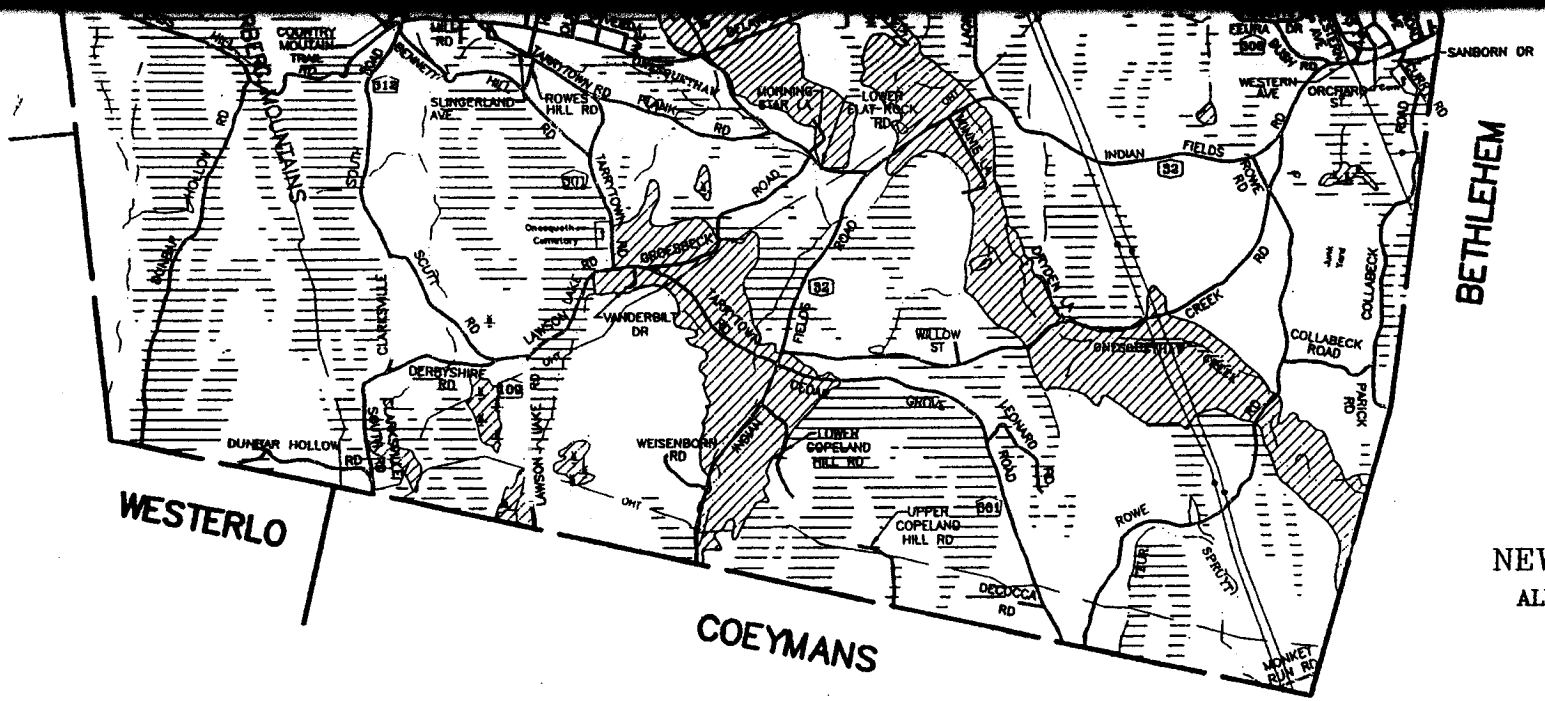

Figure 3-1

SLOPE ANALYSIS MAP

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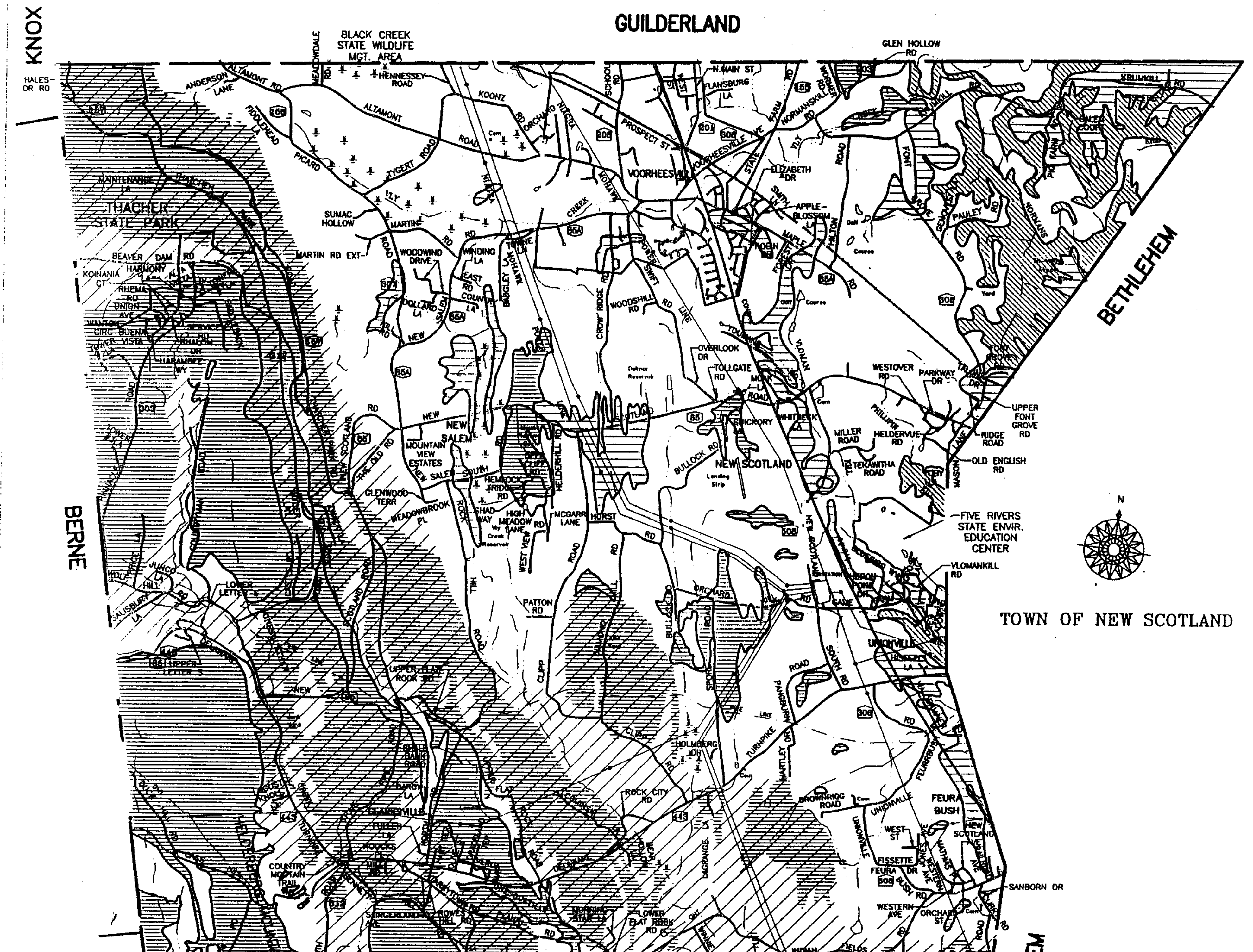
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HELDERVUE RD
TEKAWITHA ROAD
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MEADOWBROOK PL
HEMLOCK RIDGE RD
HIGH MEADOW LANE
MCGARR LANE
HORST RD
PATTON RD
VLOMANKILL RD
ORCHARD
LOWER LETTER S
UPPER LETTER S
JUNCO LA
SALISBURY LA
UPPER FLAT ROCK RD
HOLMBERG DR
TURNPIKE
PANGBURN
HARTLEY DR
ROCK CITY RD
BROWNRIGG ROAD
UNIONVILLE
WEST ST
FISSETTE LA
FEURA BUSH RD
WESTERN AVE
ORCHARD ST
SANBORN DR
COUNTRY MOUNTAIN TRAIL
ROWES HILL RD
MORNING STAR LA
LOWER FLAT ROCK RD
SLINGERLAND AVE
DELAWARE
CLIPP RD
SOUTH RD
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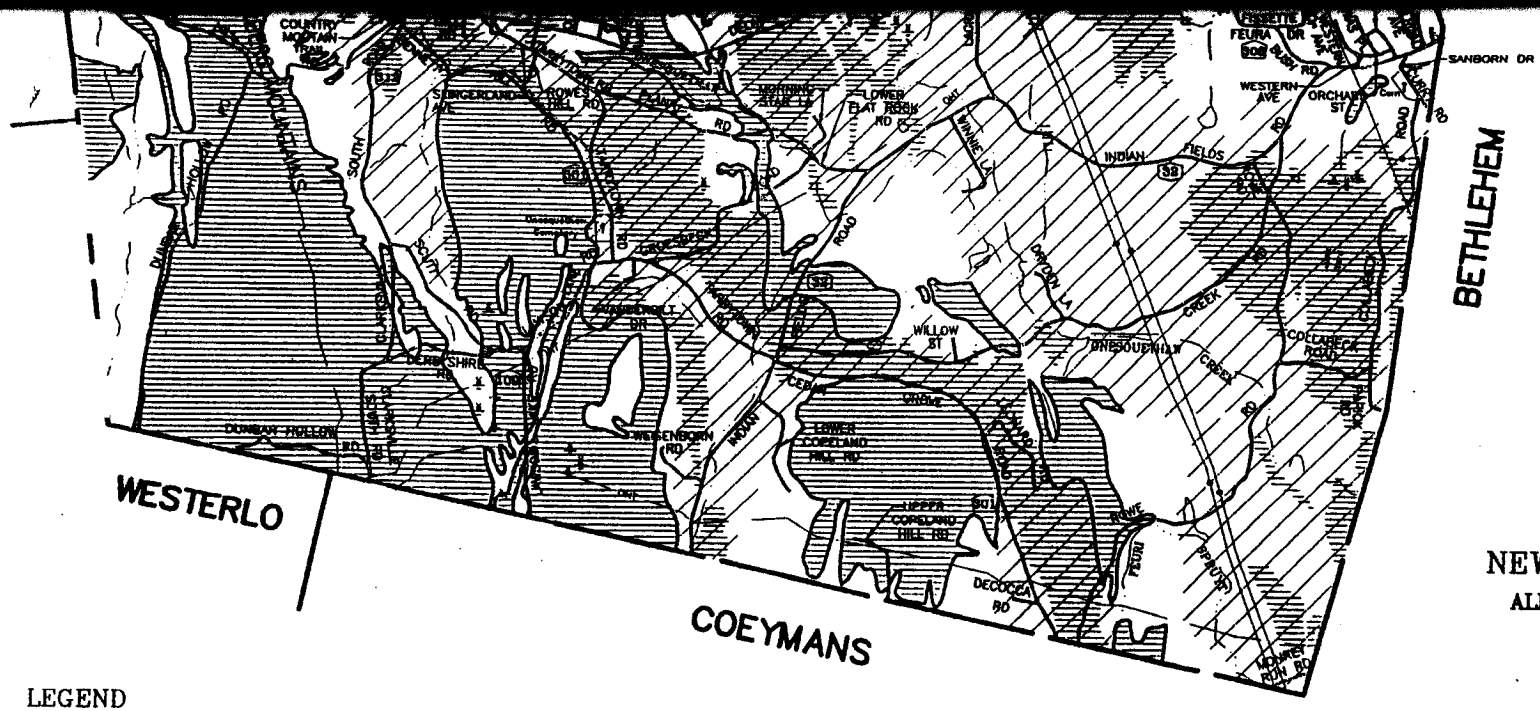

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- AREA OF BEDROCK AT OR NEAR THE SURFACE
- AREA HAVING POTENTIAL FOR SINKHOLE DEVELOPMENT
- AREA HAVING POTENTIAL FOR LANDSLIDES OR OTHER SLOPE INSTABILITY
- AREA HAVING POTENTIAL FOR WIND EROSION IF STRIPPED OF SURFACE COVER

BAR SCALE
4800 0 2400 4800 9600
1 inch = 4800ft.

Figure 3-2

GEOLOGIC HAZARDS & THICKNESS OF OVERBURDEN MAP

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B. Bedrock Geology and Geologic Hazards

1. Low Lying Lands Geology

The Town of New Scotland has a rather unique mix of subsurface geological conditions. The underlying bedrock of the low lying plain areas are composed of sandstone and some shale which are generally thickly covered by unconsolidated glacial deposits of clay, gravel and sand. Many of the soils throughout this plain area are prime for agricultural productivity.

2. Plateau and Escarpment Geology

The cliffs, slopes and terraces of the plateau area south and west of the plain areas consist primarily of limestone and shale. These bedrock formations are often found at or near the surface. Soils on the plateau tend to be low in moisture, low in productivity and low in infiltration potentials. An occasional fertile valley such as the Onesquethaw are located on this plateau region.

3. Geological Hazard Areas

Associated with this diversity in bedrock and surface geological formations are a number of geologically hazardous areas which, if improperly developed, could be detrimental to the Town's overall health, safety and welfare. Among these hazardous areas are those susceptible to landslides and/or other slope instabilities; those which have bedrock at or near the surface; those with sinkhole potential; and those susceptible to wind erosion if stripped of surface cover. These features are mapped on Figure 3-2 Geological Hazards.

a. Landslide and/or Other Slope Instabilities

Areas exist in the northeast portion of the Town, along the Normans Kill, Phillipin Kill and Vloman Kill, with the potential for landslides and/or other slope instabilities. These areas typically coincide with steep topography and also tend to be easily eroded. Development of these sites can add to the instabilities presently in existence. For these reasons, areas with landslide characteristics were considered critical environmental areas.

b. Bedrock Conditions

Large portions of the Town contain areas of bedrock at or near the surface. These formations present severe limitations for the development of septic systems, foundation excavations, public services and road construction. Construction is possible in these areas if proper construction techniques are employed. Therefore, areas with such subsurface conditions were considered to have minimal to moderate limitations for development.

c. Sinkhole Formations

Limestone formations tend to possess what are commonly referred to as sinkhole formations. These formations are essentially cavernous areas formed by the subsurface erosion of limestone bedrock and may cause subsidence of surface areas. The cave formations in Clarksville are prime examples of eroded limestone bedrock. Sinkhole formations may cause property damage due to unstable foundation conditions. Since sinkholes typically do not threaten the health or safety of the public and cover relatively small areas, they are not generally considered to greatly hinder development.

d. Wind Erosion Potentials

Certain areas exist with highly erodible soils susceptible to wind erosion if stripped of surface cover. This hazard does not reduce the development potential of a particular parcel of land. It does, however, suggest that development within such areas be required to adhere to strict erosion control measures such as limited clear cutting and stripping of vegetation, temporary vegetative covers, and mulching during construction operations. Surface extractive industrial uses would also be incompatible in these areas.

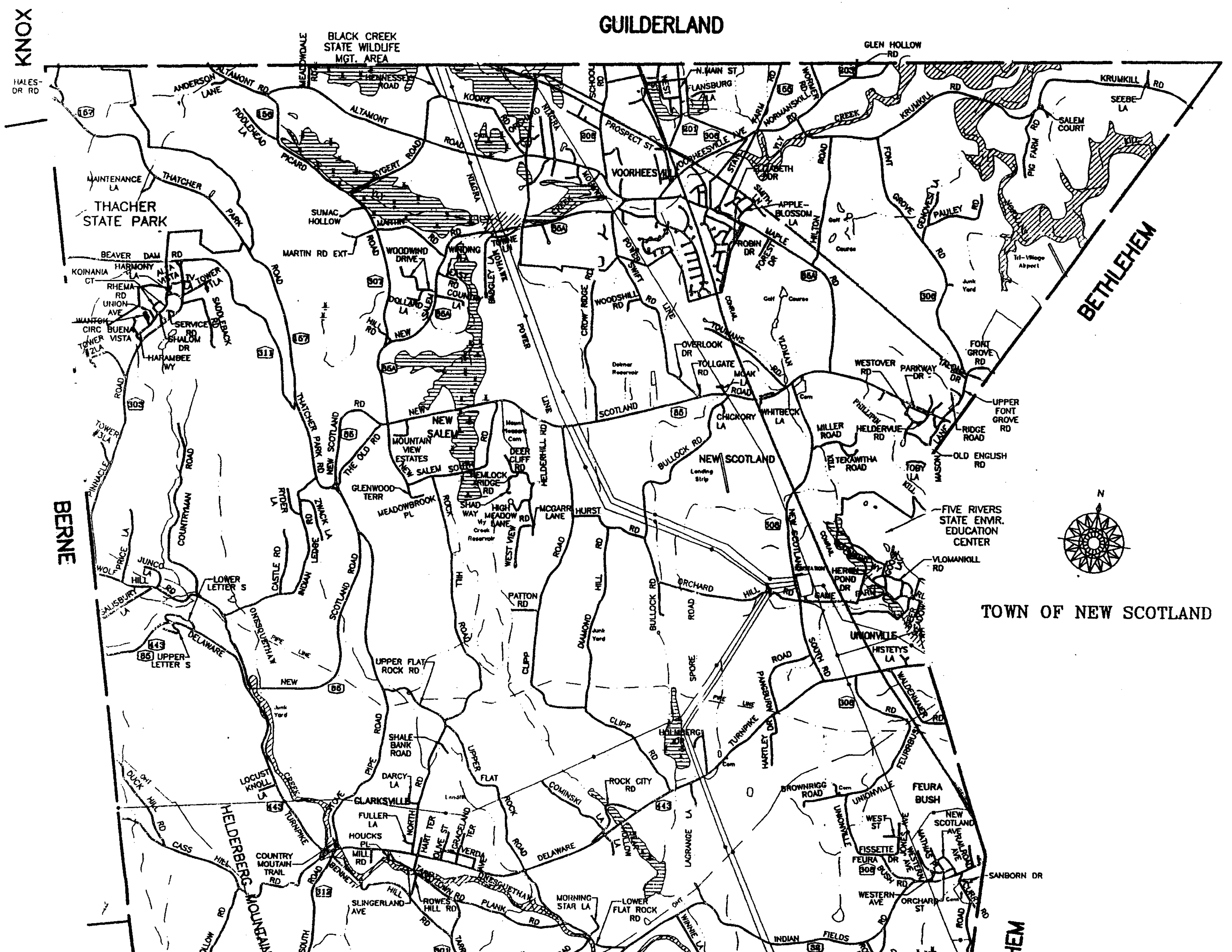
C. Wetlands and Floodplains

1. Benefits of Wetlands and Floodplains

Wetlands, once considered detrimental to the public's health, safety and welfare, are recognized today for their benefits in protection of groundwater, erosion control, pollution abatement and floodwater storage. Streams and floodplains have also received recognition for controlling flooding, providing potable water, supplying water for industry and agriculture and for adding to a community's open space and recreational needs.

2. Impacts of Development

Uncontrolled filling and development of wetlands and floodplains can be a liability. Flooding is a natural occurrence and problems arise when homes, roads, and other developments are placed in their path. Most flood problems exist because of improper development of floodplain and wetlands between floods. These problems increase as forests and pastures along streams are converted to intensive development. For these reasons, floodplains (as designated by Federal Emergency Management Agency) and wetland areas (identified by the New York State Department of Environmental Conservation) are considered un-developable lands. These features are mapped on Figure 3-3. Regulated Wetlands/Floodplain Map.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CLARKSVILLE
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KRUMKILL RD
SEEBE LA
SALEM COURT
PIG FARM RD
N. MAIN ST
FLANSBURG LA
PROSPECT ST
NORMANSKILL RD
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ELIZABETH DR
APPLE-BLOSSOM LA
PAULEY RD
FONT GROVE RD
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FOREST DR
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HILTON ROAD
ANDERSON LANE
ALTAMONT RD
HENNESSEY ROAD
MEADOWDALE RD
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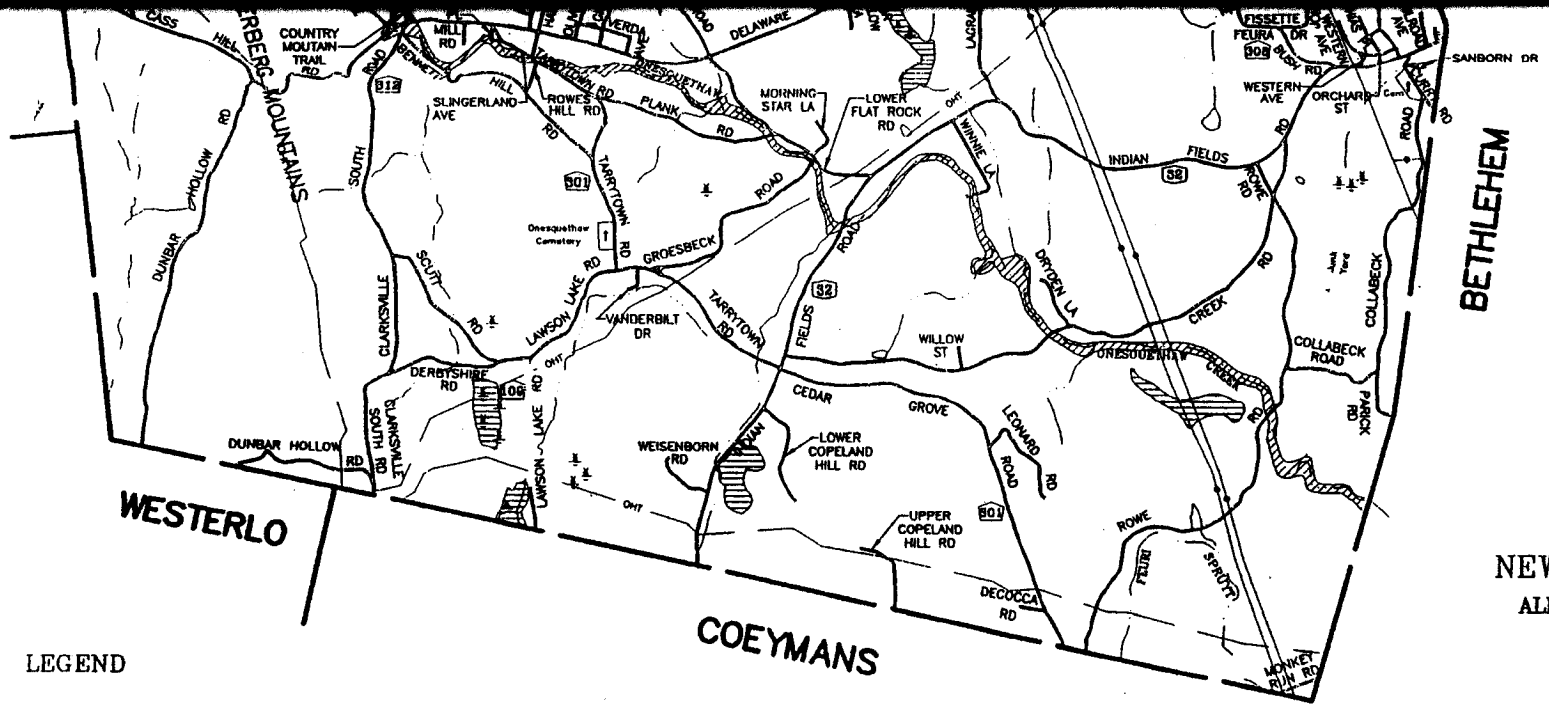
THATCHER PARK ROAD
SUMAC HOLLOW
MARTIN RD EXT
WOODWIND DRIVE
WINDING LA
TOWNE LA
BRIGGLEY LA
MOHAWK
BEAVER DAM RD
HARMONY LA
KOINANIA CT
RHEMA RD
UNION AVE
WANTOK CIRC
BUENA VISTA
TOWER #2 LA
SERVICE RD
SHALOM DR
HARAMBEE WY
SADDLEBACK RD
DOLLARD LA
SALEM
COUNTRY LA
HILL RD
NEW
POWER LINE
CROW RIDGE RD
WOODSHILL RD
OVERLOOK DR
TOLLGATE RD
MOAK LA
YOUMANS RD
VLOMAN
WESTOVER RD
PARKWAY DR
TALL OAK DR
FONT GROVE RD
UPPER FONT GROVE RD
RIDGE ROAD
OLD ENGLISH RD
MASON LANE
TOBY LA
PHILLIPIN
HELDERVUE RD
MILLER ROAD
TEKAKWITHA ROAD
WHITBECK LA
CHICKORY LA
SCOTLAND
BULLOCK RD
Delmar Reservoir
THE OLD RD
THATCHER PARK RD
NEW SCOTLAND RD
MOUNTAIN VIEW ESTATES
NEW SALEM SOUTH
HEMLOCK RIDGE RD
DEER CLIFF RD
HELDERHILL RD
GLENWOOD TERR
MEADOWBROOK PL
ROCK HILL ROAD
SHAD WAY
HIGH MEADOW LANE
WEST VIEW RD
MCGARR LANE
HURST RD
Vly Creek Reservoir
TOWER #3 LA
PINNACLE RD
COUNTRYMAN ROAD
RYDER LA
ZWACK LA
LEDGE RD
CASTLE RD
INDIAN LEDGE
SCOTLAND ROAD
PRICE LA
WOLF HILL RD
JUNCO LA
LOWER LETTER S
SALISBURY LA
DELAWARE
UPPER LETTER S
ONESQUETHAW
PIPE LINE
NEW
PATTON RD
CLIPP
DIAMOND HILL
BULLOCK RD
ORCHARD HILL RD
SPORE ROAD
NEW SCOTLAND SOUTH RD
HERON POND DR
VLOMANKILL RD
HISTETYS LA
WALDENMAIER RD
UPPER FLAT ROCK RD
SHALE BANK ROAD
PIPE ROAD
DARCY LA
UPPER FLAT ROCK ROAD
CLIPP RD
HOLMBERG
TURNPIKE
PANGBURN RD
HARTLEY DR
ROCK CITY RD
COMINSKI LA
BROWNRIGG ROAD
UNIONVILLE
FEURABUSH RD
DUCK HILL RD
LOCUST KNOLL LA
CASS HILL RD
COUNTRY MOUTAIN TRAIL RD
FULLER LA
HOUCKS PL
MILL RD
NORTH RD
HART TER
OLIVE ST
GRACELAND TER
VERDA
DELAWARE
LAGRANGE
WEST ST
FISSETTE DR
FEURA BUSH RD
JONES AVE
WESTERN AVE
MATHIAS PL
NEW SCOTLAND AVE
VAN WORMER AVE
SANBORN DR
ORCHARD ST
SLINGERLAND AVE
ROWES HILL RD
TARRYTOWN RD
PLANK RD
MORNING STAR LA
LOWER FLAT ROCK RD
WINNIE LA
INDIAN FIELDS RD
Landing Strip
Golf Course
Tri-Village Airport
Junk Yard
Landfill
N



TOWN OF
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D.E.C. REGULATED WETLANDS

F.E.M.A. REGULATED FLOODLANDS

BAR SCALE

4800 0 2400 4800 9600

1 inch = 4800ft.

Figure 3-3

REGULATED WETLANDS/FLOODPLAINS MAP

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D. Watershed Considerations

1. Watershed Description

The Surface Water Resources and Watershed Map, figure 3-4, depict land drainage patterns in New Scotland. New Scotland has four main watersheds and three man-made sub-watershed areas. A watershed is simply defined as a catchment area of a stream, river and/or other water body.

2. Vly Creek and Normans Kill Watershed

The northern most watershed feeds the Vly Creek and Normans Kill. Both of these streams flow to the northeast corner of the Town. A number of wetlands exist within this watershed due to the relatively level topography of the valley. Deep accumulations of glacial sands and gravels exist throughout this watershed. Some of these deposits have been successfully tapped for groundwater supplies including wells owned by the Village of Voorheesville and the Town of Bethlehem. These sand and gravel aquifers and their surface recharge areas provide some of the best water supply potentials for the Town and should be protected and regulated accordingly.

3. Vloman Kill Watershed

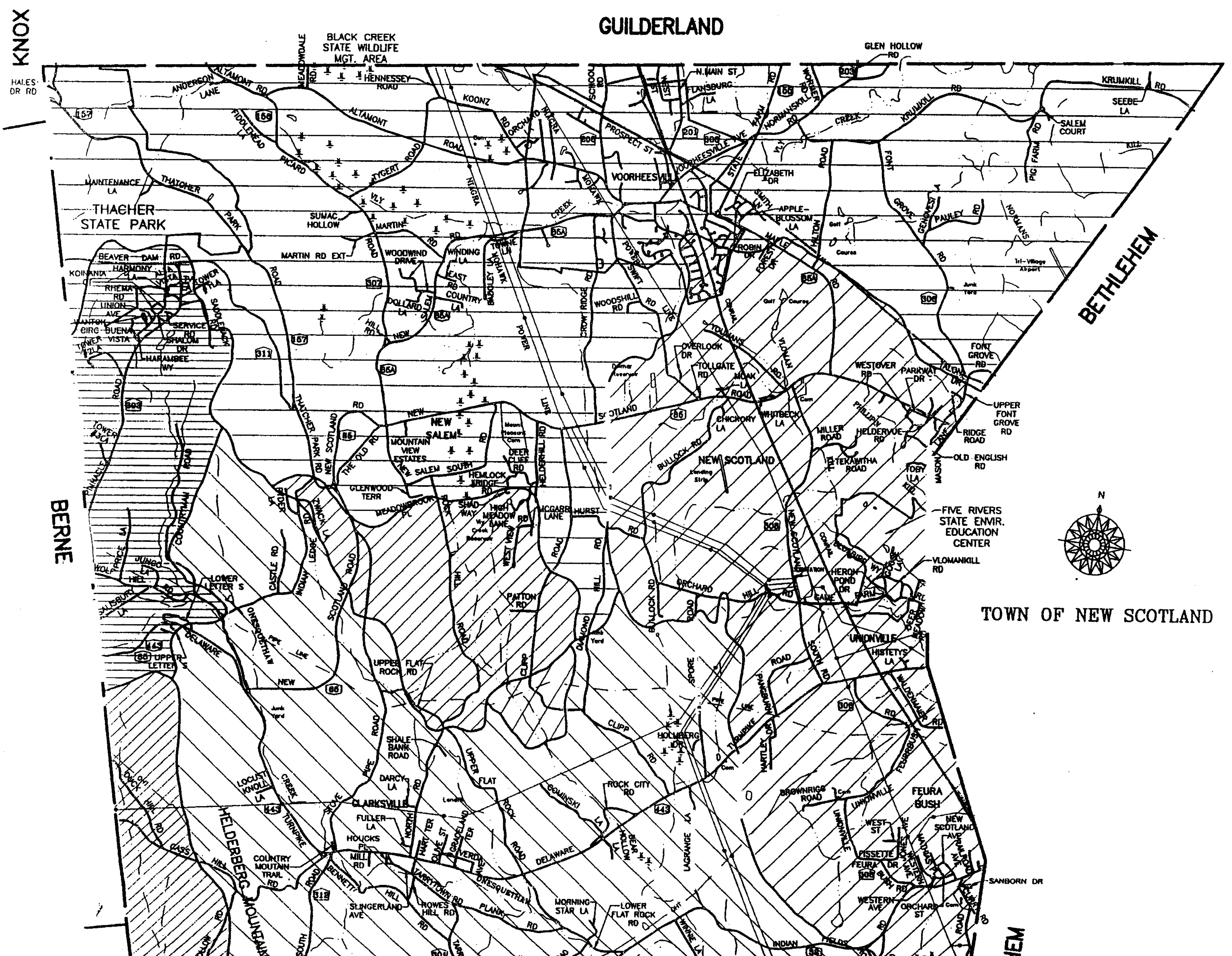
The eastern portion of the Town, including the hamlets of New Scotland, Unionville and Feura Bush drain into the Vloman Kill and Phillipin Kill streams. Both of these streams flow to the southeast of the Town. Very few large wetlands exist in this area, however, as with the Vly Creek watershed, a number of deep accumulations of glacial sands and gravels exist which may potentially be good surficial aquifer sources. Accordingly, this watershed and the underlying aquifer areas should be protected and regulated to maintain water quality and groundwater recharge capacities for existing and future water supply purposes.

4. Onesquethaw Creek Watershed

The Onesquethaw Creek watershed is the Town's largest watershed, covering about 14,600 acres of the southern portion of the Town. Elevations within this watershed range from 350 feet above sea level in the Onesquethaw valley to 1,650 feet in the Helderberg Mountains. The stream and it's tributaries flow to the southeast of the Town. Very little glacial till material is found within this watershed. Deposits that do exist have been found mostly in small and scattered deposits. Bedrock, consisting of resistant limestone exists at or near the surface. Due to the lack of surficial deposits, these bedrock formations are the only source for groundwater supplies in this portion of the Town.

Deep bedrock wells tend to be less susceptible to surface contaminants provided fractures which hold water in the bedrock do not run directly to potential surface contamination discharge points. Control of surface development need not be as restrictive as that required for watersheds over sand and gravel aquifers, however, precautions should be taken to permit only appropriate development in areas where bedrock wells provide the primary source for water.

The western portion of the Onesquethaw watershed has been diverted to act as a recharge area for the Vly Creek reservoir. This reservoir is part of the Bethlehem public water supply network. As such, and due to the relatively low permeability of the soils in the area, runoff rapidly channels into the reservoir system. Development within this sub-watershed should, therefore, be regulated to minimize potential runoff contamination.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NORMANS
BEAVER DAM RD
KOINANIA
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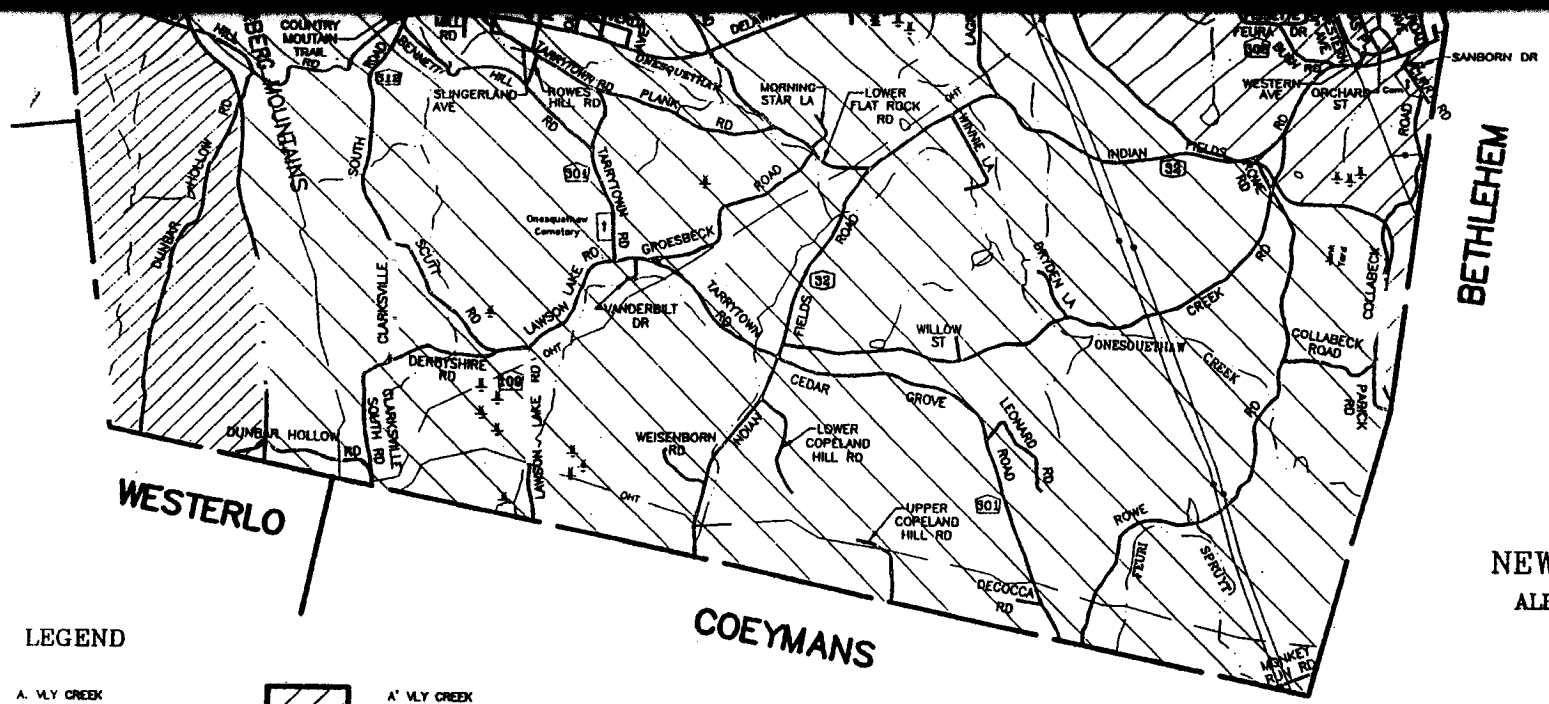

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- A. VLY CREEK normans kill river watershed
- B. ONESQUETHAW CREEK watershed
- C. VLOMAN KILL watershed
- D. HANNACROIS CREEK watershed
- A' VLY CREEK RESERVOIR SUBWATERSHED
- B' VLY CREEK RESERVOIR ONESQUETHAW CREEK SUBWATERSHED
- C' VLY CREEK RESERVOIR STAGE III WATERSHED DIVVERSION
- SURFACE WATER STREAMS, LAKES AND PONDS
- SURFACE WATER WETLANDS

BAR SCALE

4800 0 2400 4800 9600

1 inch = 4800ft.

Figure 3-4

SURFACE WATER RESOURCE AND WATERSHED MAP

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5. Hannacrois Creek Watershed

The southwest portion of the Town drains due south along a tributary to the Hannacrois creek into the Town of Westerlo. This watershed lies solely in the hills of the Helderberg Mountains and is under-laid almost entirely with limestone bedrock, at or near the surface. The lowest elevation of this watershed is around 850 feet above sea level. Runoff and infiltration of water in this watershed will have little or no impact on the Town's existing and future water supplies. Bedrock conditions and steep slopes minimize the chances that this area will ever be heavily developed.

6. Vly Creek Reservoir - Sub-Watersheds

Two sub-watersheds have also been created in the Town with the construction of the Vly Creek Reservoir. The main body of the reservoir was previously part of the Vly Creek watershed and covers approximately 1,400 acres. A much smaller sub-watershed was created when the southern portion of the reservoir was built in the Onesquethaw watershed. This sub-watershed is about 196 acres in size. Both of these sub-watersheds should be strictly regulated to prevent development that might reduce the quality and/or quantity of water draining into the reservoir.

7. Importance of Watershed Protection

New Scotland has in the past, and will continue to have, scarce natural water supply resources. Bedrock water resources tend to be low yielding and low in quality throughout the Town, leaving surficial sand and gravel aquifers as the primary resource for water extraction. In addition to groundwater extraction, the Town harbors a number of surface reservoirs and reservoir recharge areas. Care must be taken when reviewing development within watershed areas which feed these reservoirs. Contamination from oil spills, salts for snow removal, and runoff from road surfaces may be easily transported via surface runoff to these reservoirs.

Watersheds also contribute to the recharge of surficial aquifer resources. Watersheds which contain existing or potential municipal water supply wells should be limited to lower intensity land uses with low pollution potentials. Industrial uses and commercial uses which concentrate vehicular traffic, require import and export of potentially hazardous raw materials and reduce the infiltration of surface water due to pavement of large surface areas should not be allowed in watershed recharge areas. Additionally, the use of pesticides, herbicides and chemical fertilizers for residential and agricultural uses should be strictly limited.

E. Agricultural Land Considerations

1. Importance of New Scotland's Agricultural Lands

Agricultural lands continue to contribute to the economy of New Scotland. As land values climb within the Town, many local farmers may find it more economical to subdivide or sell their land to developers rather than actively farm it. Agricultural land adds considerably to the Town's open space and rural character. Careful management of these lands will help to preserve Town character which is one of the primary goals of this Comprehensive Plan.

There are two principal means by which the Town of New Scotland may preserve its agricultural character. The first is to ensure that the Towns current Agricultural Districts are properly established within State guidelines. Second, the Town can enact zoning regulations which support farmers and protect agricultural lands.

2. Loss of Agricultural Land Since 1960

Although farming is still a significant land use in the Town, the acreage of active farmland in the Town has decreased considerably over the past thirty five years. Table 3-2 lists the lands actively farmed when the first land use plan was being developed (the study used 1954 census data). A comparison provided in Table 3-1 indicates that farmland has decreased by over 15,000 acres between 1954 and 1992, a drop of more than 75%.

Table 3-1

Farmland in the Town of New Scotland

	1954	*1993*
Total Land (acres)	19,985	4,605
Number of Farms	134	31
Average Size of Farms (acres)	149	149

Source: Long Range Development Plan, Town of New Scotland, January, 1960 & 1993 Town Assessment Roles

3. Protection through Agricultural Districts

New Scotland has 9,400 acres of land within designated Agricultural Districts under the State Agriculture and Markets Law (article 25AA). Much of this acreage is still actively farmed. Figure 3-5 shows designated Agricultural Districts.

The State provides substantial financial incentive to owners of property contained within Agricultural Districts to encourage agriculture and discourage alternate land uses. These incentives include lower property taxes, a limited exemption from local zoning, and protection from being the object of a government condemnation or eminent domain action.

The State Agricultural and Markets Law also provides for the establishment of agricultural districts of unique and irreplaceable land by the N.Y.S. Department of Environmental Conservation.

Individual land plots of ten acres or more can receive a special assessment under the law in return for being committed to agriculture for a period of eight years. Land registered under this program will be assessed at the same rate as lands in agricultural districts. The lower tax assessment is an incentive for farmland preservation.

4. Protection of Agricultural Lands through Zoning

Agricultural zones and/or overlay district zones may be used to protect agricultural lands from over-development. These districts can be as restrictive or as non-restrictive as the Town desires.

The following section identifies the process used in this study to establish potential agricultural district limits for New Scotland. The first step in the process was the identification of district limits. Potential district lands were identified based on soil suitability and the existence of active farmland.

The U.S. Department of Agriculture, Soil Conservation Service defines highly productive soils as those with high fertility, adequate drainage, adequate depth to bedrock and gradual slopes. The best soils are categorized by the Service as 'prime agricultural soils'. Soils listed as being "high yielding when properly drained", of "statewide importance" and without severe slope, surface bedrock, slippage, flooding or erodibility, are categorized as 'secondary soils'. All other soils are considered unsuitable. (See Figure 3-6)

5. Designating Municipal Agricultural Districts

Designating agricultural districts based on soil suitability alone may be too restrictive. Regulation of lands based on primary soil characteristics overlaid upon state registered agricultural districts, does appear rational. Such a form of regulation will not over-restrict development and at the same time will protect primary soils, maintain agricultural lands for future use and preserve portions of the Towns open space.

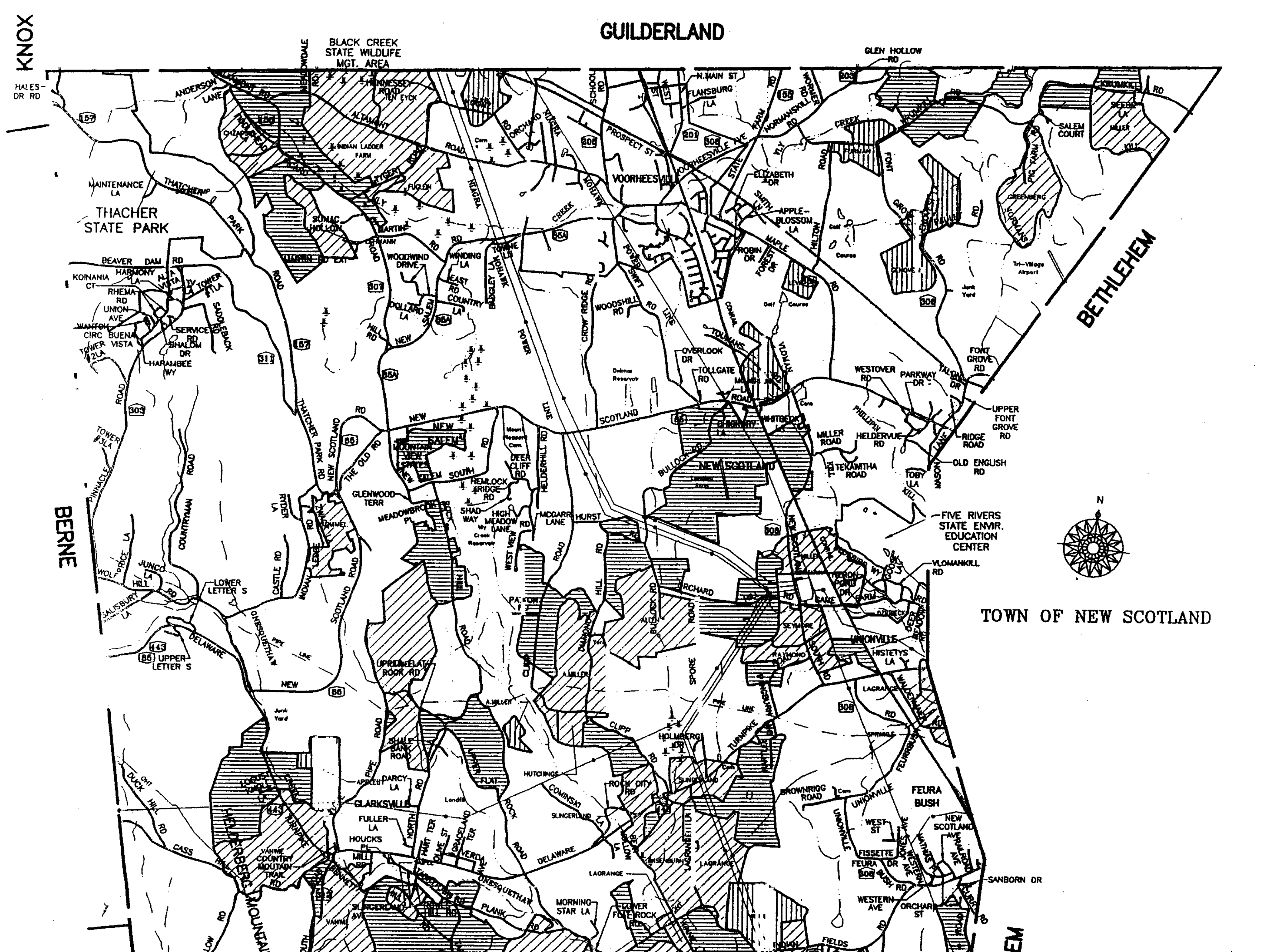
New Scotland had 37 active farms in 1989 ranging in size from 21.2 acres to 440.8 acres. In 1989 farms within New Scotland constituted a total 5,145.86 acres, or 14% of the Town's total acreage. (See Table 3-2)

Table 3-2

FARMLANDS IN NEW SCOTLAND, 1993[3]

	NAME	ROAD	BLOCK&LOT	ACRES
1	Appleby Farm	Stonepipe Road	105-2-16.1, 14	140.9
2	Barber	Clarksville South Rd.	117-2-21	98
3	Boomhower	Ceader Grove Road	131-1-20	245.6
4	Crocetta	Krumkill Road	63-4-11.2	15
5	Dawson	Rowe Road	131-1-14.1	146.4
6	Dececco	Cedar Grove Road	131-1-1	102.4
7	Demis	Rt 32	107-2-6, 119-2-1	153.4
8	Frueh	Collabeck Road	107-2-43.2	35.2
9	Fuglein	Tygert Road	71-2-21.3, 21.1	80.2
10	Funk	Krumkill Road	63-4-2	30.2
12	Groesbeck	Krumkill Road	118-2-19.1	107
13	Herzog	Altamont & Picard Roads	71-1-17	67
14	Hoos	Onesquethaw Creek Road	119-1-4.10	78.84
15	Indian Ladder	Altamont Road	71-2-20.1	303.1
16	LaGrange	LaGrange Lane	106-4-18,38&107-1-13.1	191
17	Mead	Delaware Turnpike	95-3-6	24
18	A. Miller	Clipp Road	94-1-2, 23	125
19	G&K. Miller	Krumkill Road	63-4-11.1, 83-2-64.2	58.2
20	Moreaw	Pangburn Road	62-4-13	93.5
21	Parks	Route 32	107-1-17	85
22	Raymond	New Scotland South Rd.	95-2-6.1	68
23	Rice	Delaware Turnpike	107-1-9	102.5
24	Slingerland	Delaware Turnpike	106-2-11.1, 3-5.1	142
25	Stanton	Onesquethaw Creek Rd.	119-2-15.1, 15.2	170.5
25	Starr	Ceader Creek Rd.	131-1-21	130
27	Sullivan	Cellar Grove Road	119-1-18.1	139.6
28	Ten Eyck	Tygert Road	71-2-20.3.5	134.5
29	Tommell	Flat Rock Road	82-1-51.3&93-2-34,35,36	609.6
			94-1-5, 106-2-30	
30	Vanderbilt	Tarrytown Road	118-1-9.1	176.1
31	Van Wie	Delaware Turnpike	93-2-14,	661.3
			105-1-14.2, 17,	
			105-2-3, 6.1, 8, 9, 15,	
			31, 35-37, 105.4-1-6,	
			105.4-1-28, 105.4-2-1,	
			105.4-2-5, 105.4-2-15,	
			117-1-7, 117-2-23.1,	
			118-2-6	
32	Waldbilling	Normanskill Road	62-4-13	93.5
			TOTAL	4605.34

[3]Source: New Scotland Tax Assessor Dick Law, 1993.



TOWN OF NEW SCOTLAND
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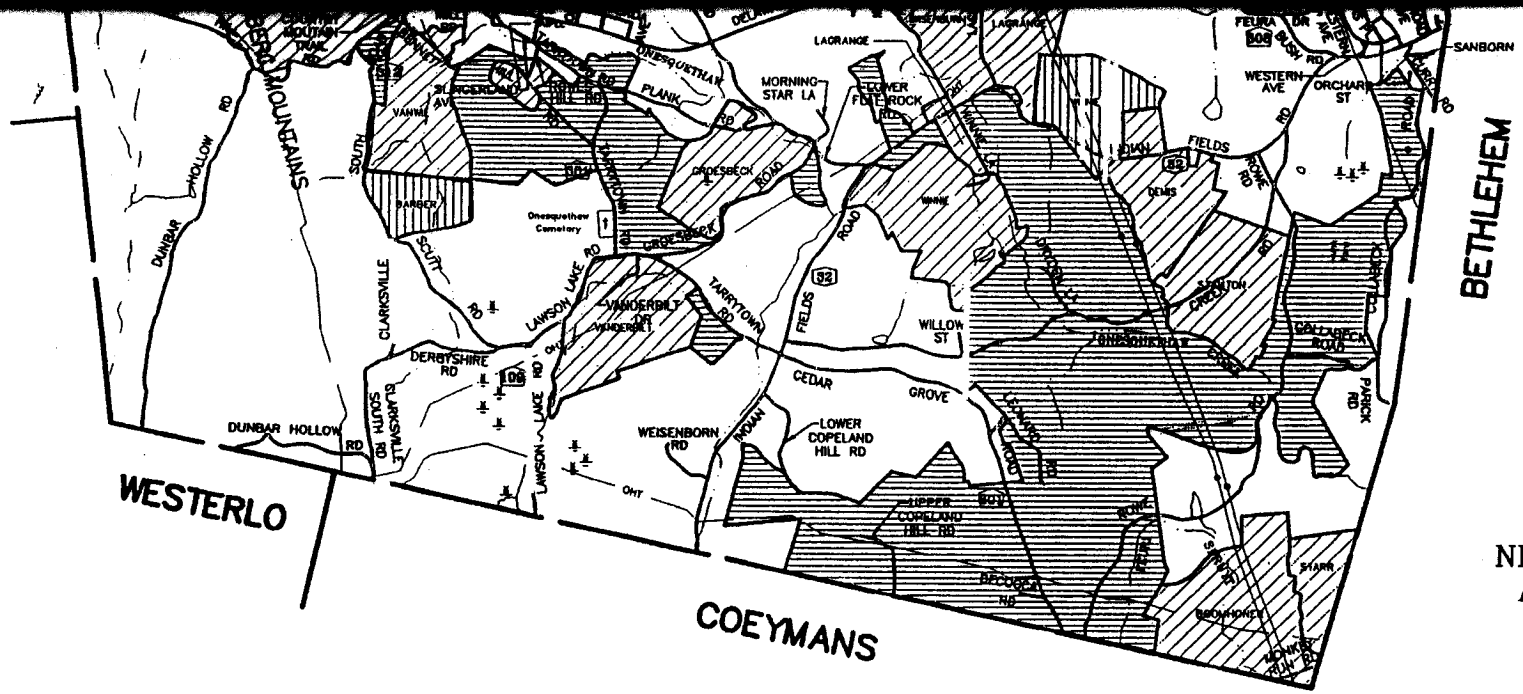
BETHLEHEM
BLACK CREEK STATE WILDLIFE MGT. AREA
THACHER STATE PARK
VOORHEESVILLE
NEW SALEM
NEW SCOTLAND
CLARKSVILLE
FEURA BUSH
UNIONVILLE
FIVE RIVERS STATE ENVIR. EDUCATION CENTER
GLEN HOLLOW RD
HALES DR RD
ANDERSON LANE
MAINTENANCE LA
BEAVER DAM RD
KOINANIA CT
HARMONY LA
RHEMA RD
UNION AVE
SERVICE RD
SHALOM DR
HARAMBEE WY
BUENA VISTA
SADDLEBACK RD
THATCHER PARK RD
NEW SCOTLAND RD
THE OLD RD
WOODWIND DRIVE
WINDING LA
DOLLARD LA
COUNTRY LA
BADGLEY LA
POWER LINE
CROW RIDGE RD
WOODSHILL RD
OVERLOOK DR
TOLLGATE RD
WESTOVER RD
PARKWAY DR
FONT GROVE RD
UPPER FONT GROVE RD
RIDGE ROAD
OLD ENGLISH RD
MILLER ROAD
HELDERVUE RD
TEKAWITHA ROAD
TOBY LA
VLOMANKILL RD
SALEM COURT
PROSPECT ST
ELIZABETH DR
APPLE-BLOSSOM LA
ROBIN DR
FLANSBURG LA
N. MAIN ST
SCOTLAND RD
HELDERHILL RD
DEER CLIFF RD
HEMLOCK RIDGE RD
SHAD WAY
HIGH MEADOW LANE
MCGARR LANE
WEST VIEW RD
GLENWOOD TERR
MEADOWBROOK PL
RYDER LA
CASTLE RD
JUNCO LA
LOWER LETTER S
UPPER LETTER S
ONESQUETHAW
DELAWARE
UPPER FLAT ROCK RD
SHALE BANK ROAD
DARCY LA
FULLER LA
HOUCKS PL
HUTCHINGS
COMINSKI
SLINGERLAND
ROCK CITY RD
HOLMBERG
TURNPIKE
BROWNRIGG ROAD
WEST ST
FISSETTE
FEURA BUSH RD
WESTERN AVE
ORCHARD ST
NEW SCOTLAND AVE
SANBORN DR
LAGRANGE
MORNING STAR LA
LOWER FLAT ROCK RD
HISTETYS LA
HELDERBERG MOUNTAIN
VANWIE COUNTRY MOUTAIN TRAIL RD
DUCK HILL RD
CASS HILL
SALISBURY LA
WOLF HILL RD
PRICE LA
PINNACLE
TOWER #3 LA
ORCHARD
SEYMORE
SPORE
CLIPP
PLANK



TOWN OF
NEW SCOTLAND
ALBANY COUNTY
NEW YORK

LEGEND

- APPLICATION BOUNDARY FOR AGRICULTURAL DISTRICTS AREA NO. 3
- PRIVATE FARM HOLDINGS WITHIN AGRICULTURAL DISTRICT
- PRIVATE FARM HOLDINGS OUTSIDE AGRICULTURAL DISTRICT

SOURCE: TOWN OF NEW SCOTLAND REAL PROPERTY tax assessment maps, albany county agricultural district map, 1988.

BAR SCALE
4800 0 2400 4800 9600
1 inch = 4800ft.

Figure 3-5

ALBANY COUNTY REGULATED
AGRICULTURAL DISTRICT MAP

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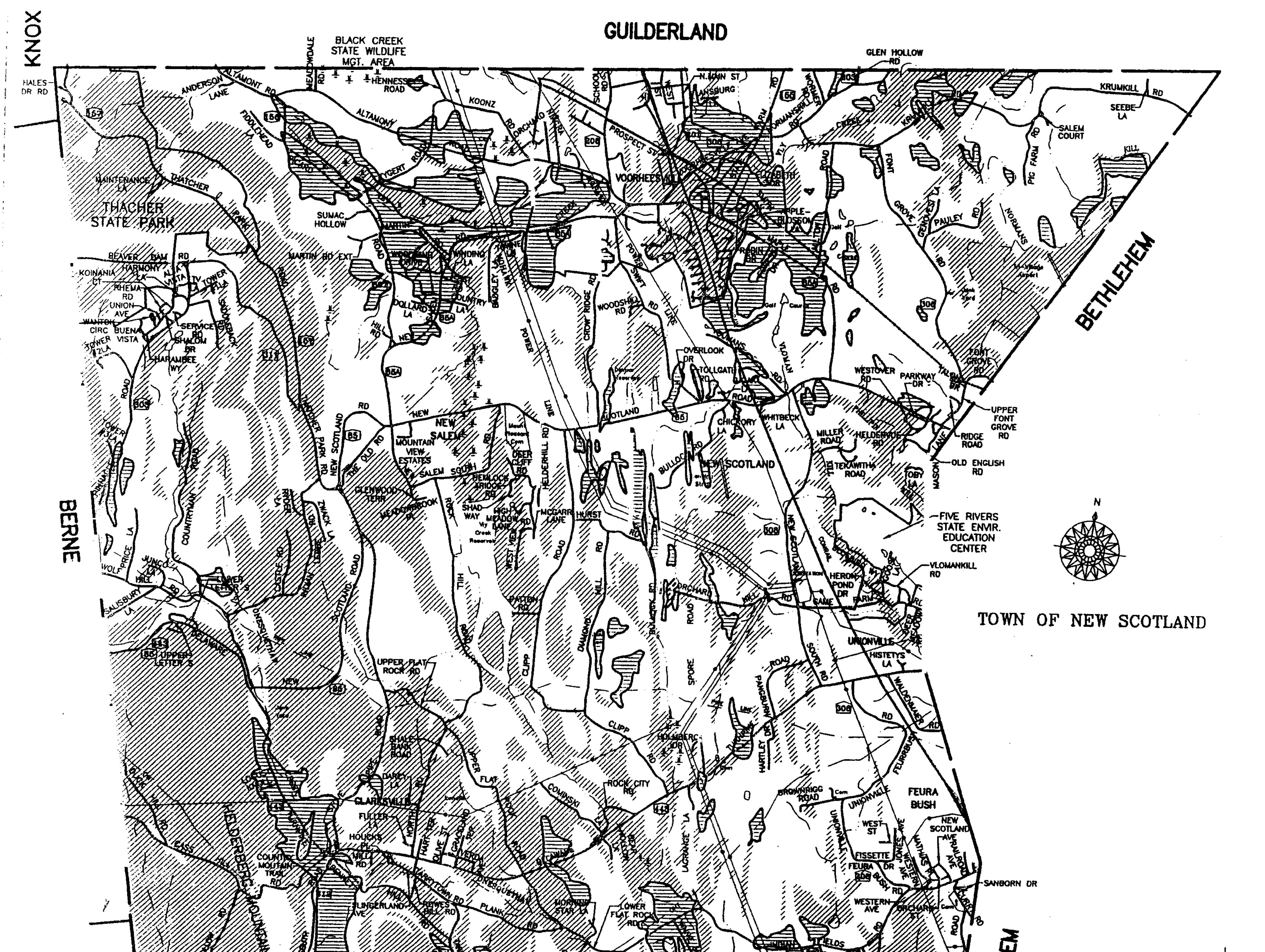
NEW SCOTLAND COMPREHENSIVE PLAN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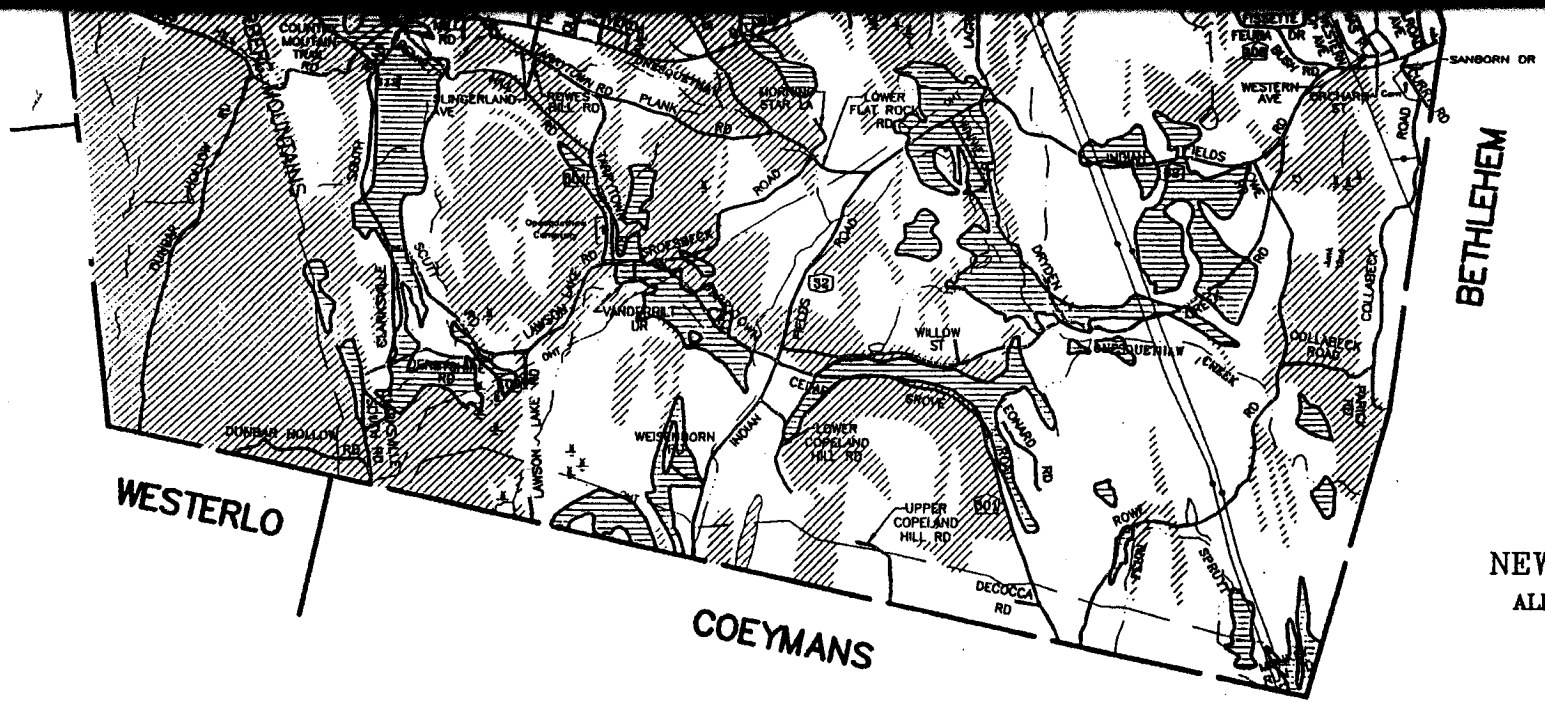
VOORHEESVILLE
NEW SALEM
NEW SCOTLAND
CLARKSVILLE
FEURA BUSH
UNIONVILLE
N
GLEN HOLLOW RD
KRUMKILL RD
SEEBE LA
SALEM COURT
ANDERSON LANE
ALTAMONT RD
HENNESSEY ROAD
KOONZ RD
FIDDLEHEAD LA
MAINTENANCE LA
THATCHER PARK
SUMAC HOLLOW
MARTIN RD EXT
BEAVER DAM RD
KOINANIA CT
RHEMA RD
UNION AVE
SERVICE RD
SHALOM DR
HARAMBEE WY
CROW RIDGE RD
WOODSHILL RD
OVERLOOK DR
TOLLGATE RD
WESTOVER RD
PARKWAY DR
FONT GROVE RD
UPPER FONT GROVE RD
RIDGE ROAD
OLD ENGLISH RD
MILLER ROAD
TEKAWITHA ROAD
MOUNTAIN VIEW ESTATES
GLENWOOD TERR
HEMLOCK RIDGE RD
McGARR LANE
HELDERHILL RD
HERON POND DR
VLOMANKILL RD
HISTETYS LA
UPPER FLAT ROCK RD
ROCK CITY RD
BROWNRIGG ROAD
LOWER FLAT ROCK RD
SANBORN DR
WESTERN AVE
FISSETTE DR
FULLER LA
HOUCKS PL
SLINGERLAND AVE
REWES HILL RD
COUNTRY MOUNTAIN TRAIL RD
UPPER LETTER S
HELDERBERG MOUNTAIN



TOWN OF
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ALBANY COUNTY
NEW YORK

LEGEND

BEST SOILS

MODERATE

WORST SOILS

BAR SCALE

4800 0 2400 4800 9600

1 inch = 4800ft.

Figure 3-6

AGRICULTURAL
SOILS MAP

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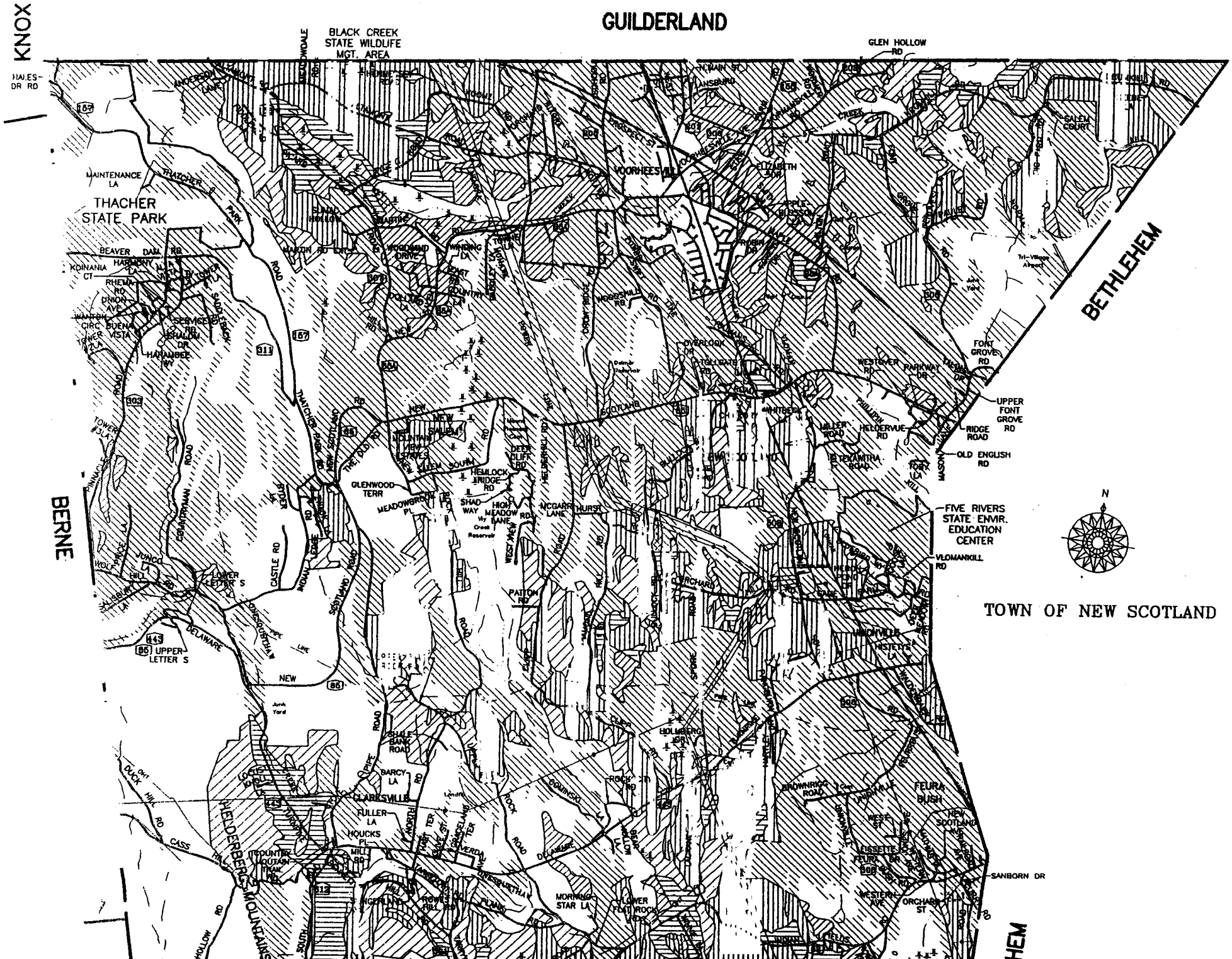
NEW SCOTLAND COMPREHENSIVE PLAN

6. Agricultural Land Losses and Protection Rational

Figure 3-7 identifies agricultural district lands and non-district lands within New Scotland. The map delineates lands within the districts containing 'primary' and 'secondary' soils as per the Soil Conservation Survey.

Figure 3-7 was used as a guideline to create the agricultural zoning districts outlined in Section V tailored to the goal of farm preservation. A pro-active policy approach to agricultural land preservation should emphasize innovative open space techniques such as mandatory land set aside regulations and/or cluster zoning. In addition, large lots, the size of which would depend upon the quality of the land (as categorized by the Soil Conservation Service) and existing land uses, should also be relied on in these districts to promote agricultural character. Lower density development is recommended. Zoning in agricultural districts should be written to encourage farming and related uses. Residential development, where allowed, should be limited to strategic locations, where agriculturally significant soils are not in question, and where conflicts between residential and farm uses, such as noise and odors, are minimized.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VLOMANKILL RD
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HELDERBERG MOUNTAINS
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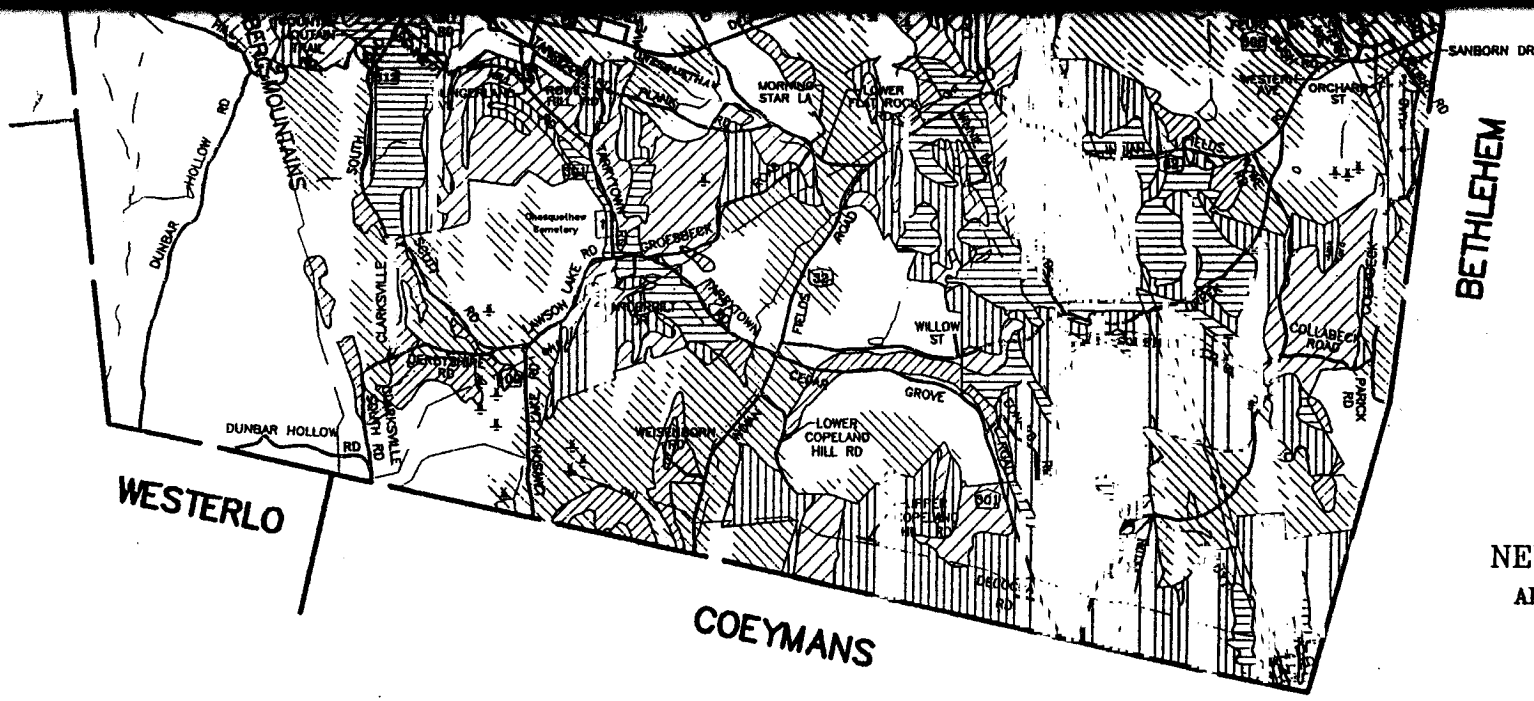

TOWN OF
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ALBANY COUNTY
NEW YORK

LEGEND

- BEST SOILS WITHIN AGRICULTURAL DISTRICT BOUNDARIES AND/OR ACTIVE FARMLAND
- MODERATE SOILS WITHIN AGRICULTURAL DISTRICT BOUNDARIES AND/OR ACTIVE FARMLAND
- BEST SOILS OUTSIDE AGRICULTURAL DISTRICT BOUNDARIES AND/OR ACTIVE FARMLAND
- MODERATE SOILS OUTSIDE AGRICULTURAL DISTRICT BOUNDARIES AND/OR ACTIVE FARMLAND
- WORST SOILS WITHIN AGRICULTURAL DISTRICT BOUNDARIES AND/OR ACTIVE FARMLAND

BAR SCALE

4800 0 2400 4800 9600

1 inch = 4800ft.

Figure 3-7

AGRICULTURAL LANDS SUITABILITY MAP

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NEW SCOTLAND COMPREHENSIVE PLAN

F. Land Development Suitability

1. Suitability Map

The final step in the analysis of the natural characteristics involved the synthesis of the individual land characteristics into a composite map indicating the physical ability of the land to support development. This was accomplished by overlaying the environmental analysis maps and the water supply issues discussed in Section IV to create a land development suitability map. Environmental restrictions are expressed in four degrees: 1.) critical; 2.) moderate to severe; 3.) minimal to moderate ; and 4.) minimal. Lands characterized as critical are least suited for development. Lands categorized as minimal are most suited.

2. Category 1 - Critical Environmental Areas

Lands classified as "Critical Environmental Areas" are only suitable for very low density development unless special construction techniques are employed and extensive public services are installed. Environmental characteristics for this category include slopes of over 15% or under 2%, wetland areas and floodplains. Suitable land uses include nature preserves, public parks, wildlife sanctuaries, limited forestry activities and housing at low densities.

Critical areas may be further protected by a Town Board resolution designating activities within their limits as Type I Actions under the New York State Environmental Quality Review Act. Development proposals within these areas would require preparation and review of a draft environmental impact statement.[4]

3. Category 2 - Moderate to Severe Environmental Restrictions

The second most restrictive category includes lands susceptible to landslides, areas with bedrock formations at or near the surface, and low water yield from bedrock or unconsolidated surface materials[5]. Again, development densities for this category should be kept low. Activities might include limited forestry, agriculture and residential development at low densities.

4. Category 3 - Minimal to Moderate Environmental Restrictions

Lands in this category possess conditions that may be compensated for with construction techniques and design review. Such restrictions include sink hole potentials, and low yielding bedrock formations which limit well water supplies. On lands possessing these restrictions, housing densities should be monitored and clustering should be encouraged (unless it can be demonstrated that water supplies are sufficient and bedrock conditions will allow for adequate septic system construction). Limited commercial and industrial/manufacturing operations could be considered assuming adequate water and sanitary systems can be demonstrated.

---

[4]Refers to the New York State Environmental Quality Review Act (SEQRA) procedures. SEQRA requires that physical actions be reviewed for their effect on environmental quality. Actions are designated as type I or II and the extent of review varies according to the designation. A municipality may, through local law, apply more extensive review requirements by predesignating through local law a certain land area or specific action as a Type I Action.

[5] In areas where water supply is the limiting factor, the extension of municipal water supplies could greatly increase development suitability. These areas are located throughout the low plains areas of the

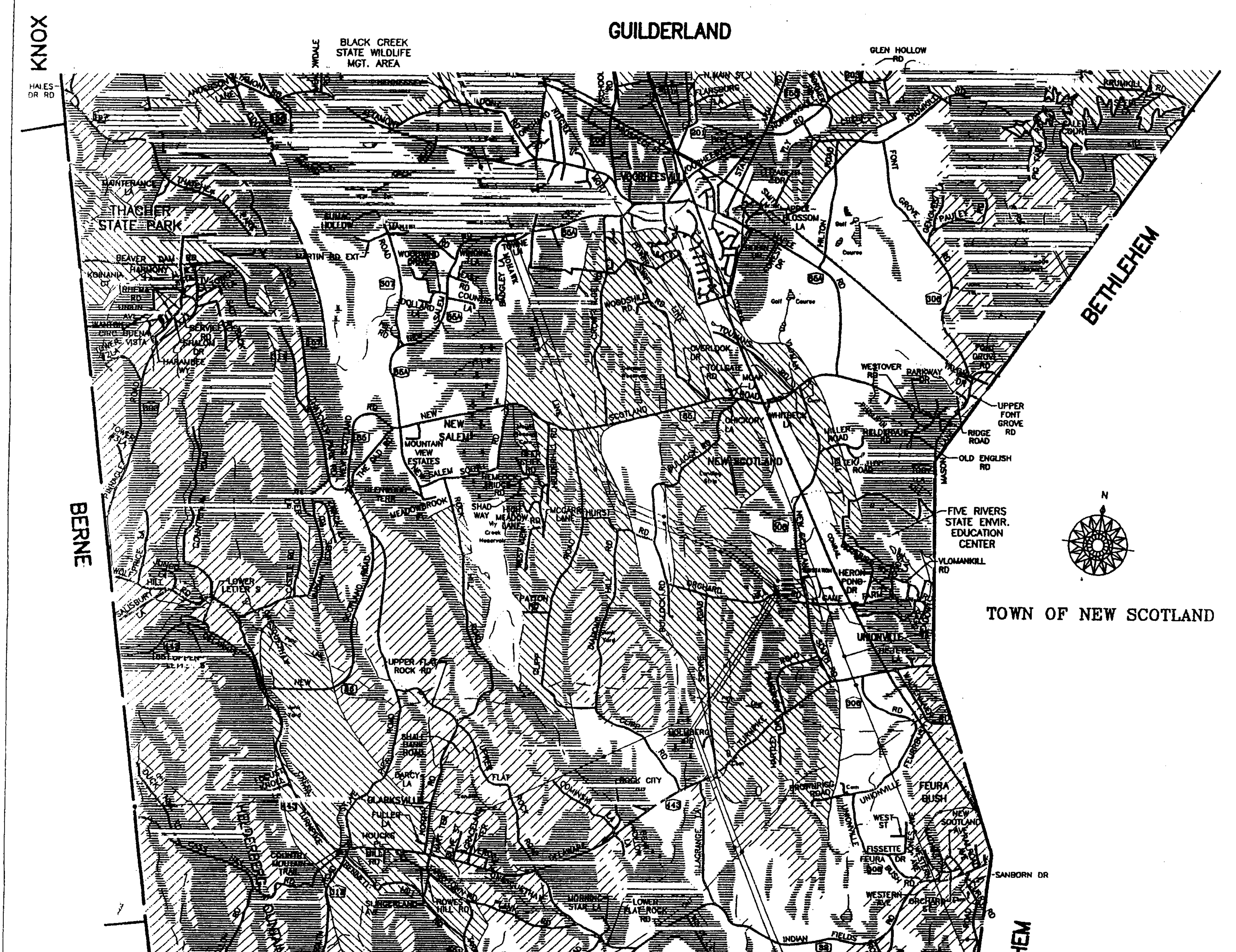
Where municipal water is available, densities could be relatively high. However, because sink holes may form depressions in this area and may cause foundation failures, and driveway and sidewalk settling, large structures (such as malls, office complexes and industrial developments) should be allowed only after in-depth review of subsurface conditions.

5. Category 4 - Minimal Environmental Restrictions

This category includes all remaining areas in the Town where conditions are most favorable for more intensive development. Many of these lands lie within areas of prime agricultural value and need to be considered not only for their development suitability but also for their contribution to the Town's agricultural base and open space character. Regulation of these lands are proposed in the Comprehensive Land Use Plan.

The composite Land Development Suitability Map for the Town, which indicates the location of lands in each of the four categories described here, is shown on Figure 3-8.

Town where expansion of municipal water services has been contemplated.



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CLARKSVILLE
FEURA BUSH
UNIONVILLE
ROCK CITY
VOORHEESVILLE
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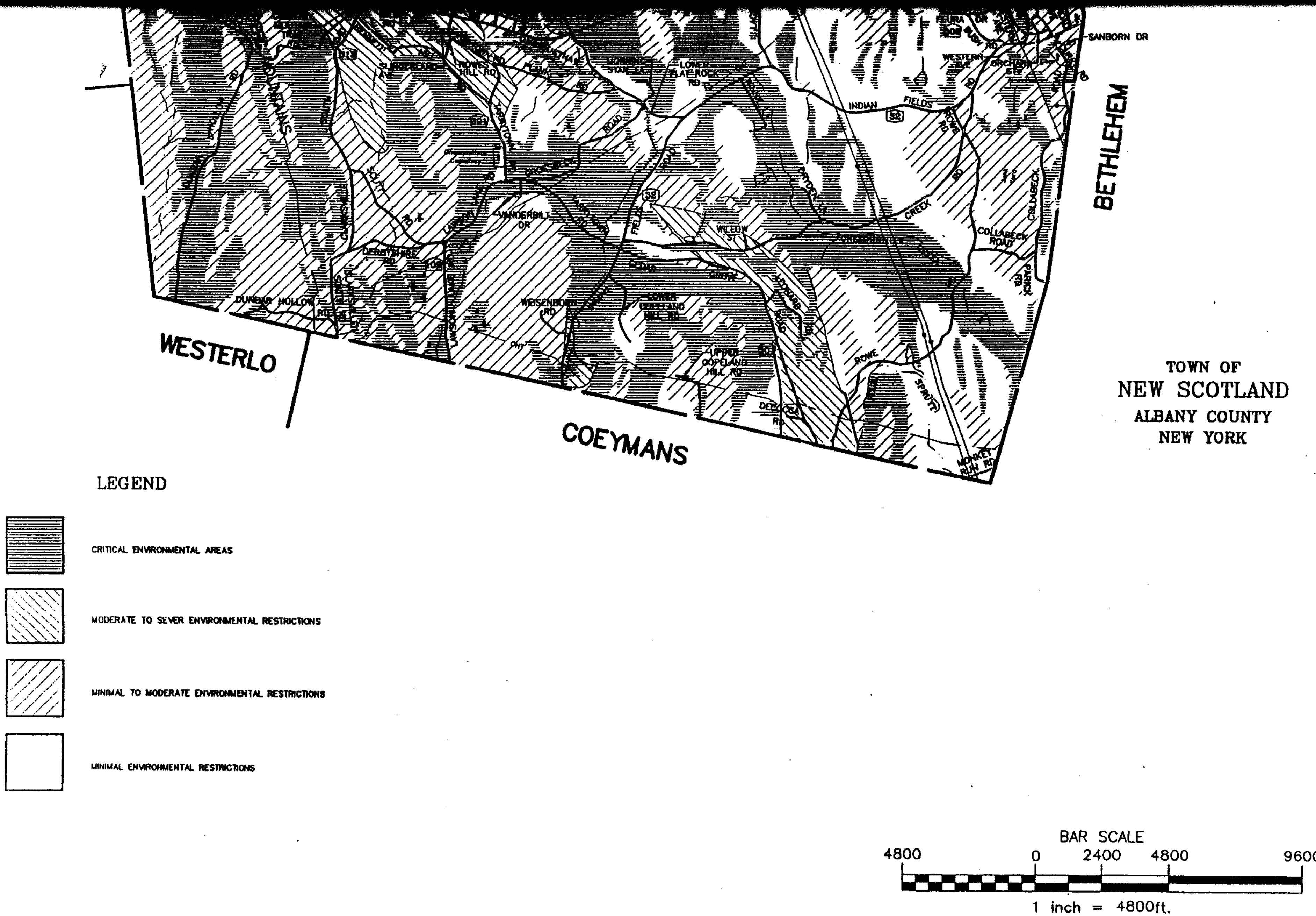

Figure 3-8

LAND DEVELOPMENT SUITABILITY

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Section IV. Ground Water Resources

The Town of New Scotland currently owns and operates only one Municipal water supply system located in the hamlet of Clarksville. Both the Village of Voorhesville and the Town of Bethlehem have reservoirs and wells, located in the Town of New Scotland. These two systems supply a limited number of residences, however, they cannot be relied upon to supply all future water supply needs because they are nearing peak capacity. Therefore, it is imperative for the Town to determine those areas most suitable for well development, both for individual and municipal well sources. Encouraging appropriate development within these areas to protect the limited ground water resources within the Town's jurisdiction should be given high priority.

The following is a compilation of resources which describe the geologic conditions that occur in the Town of New Scotland and how the geologic setting acts to limit or provide economic and potable water supplies. The information and maps identify areas of the Town which have a good, moderate or minimal potential for water and also areas where water quality may be limiting due to chemical or mineralogical content.

A. Ground Water Resources

1. Geologic Setting

The Town of New Scotland lies within two distinct physiographic areas: the lower Albany Peneplain and the upland Helderberg Peneplain (Ruedemann, 1930). A peneplain is a level topographic surface which is the result of erosion. The boundary between the two areas follows a southeasterly line locally known as the Helderberg Escarpment.

The majority of the Town's population, lives within the Albany Peneplain. This area includes New Salem, Feura Bush, Unionville, New Scotland, and the Village of Voorheesville. The elevation ranges from 650 feet above sea level near Deercliff Rd. (off Helderhill Rd.) to only 100 feet along the Normans Kill in the northeast corner of the Town. Bedrock occurs at or near the surface in four locations within this area. Elsewhere, the foothill area is covered with glacial till molded into elliptical hills known as

drumlins. Deep accumulations of glacial sands and gravels exist in a low, triangular area north of New Salem stretching to the Guilderland boundary. East of New Scotland, deep glacial lake deposits lie in lower elevations below 300 feet. The generally low elevations in the Albany Peneplain are largely due to the weak nature of the underlying shale bedrock (Winkley, 1987).

The Helderberg Peneplain covers the south and westerly portions of the Town. The altitude of the region in the Town ranges from 1650 feet in the Helderberg Mountains to 350 feet in the lower Onesquethaw valley. Most of the region lies above 600 feet. Except for the glacial drainageway along Onesquethaw Creek, till covers the region in generally thin amounts. Bedrock is at or near the surface in many areas. The topography is predominantly controlled by the underlying bedrock. The high elevation in the region is due to the fact that the weaker Schenectady and Snake Hill Formations of the Albany Peneplain are buried beneath resistant Helderbergian and Onondaga Limestones. The Helderberg Escarpment, the boundary between the two peneplains, itself is the topographic expression of the contact between the cliff-forming limestones and the low-lying shale formations (Winkley, 1987).

2. Surficial Geology - Glacial Geology

Surficial geology, as summarized from Winkley, 1987, is the study of geologic materials at or near the surface of the earth and is chiefly concerned with unconsolidated materials such as sands, silts and clays. These deposits, collectively known as overburden, are very important in relation to groundwater availability. Overburden in the Town of New Scotland occurs primarily due to the deposition of materials from the continental ice sheet which covered the area during the last ice age.

Nearly all the glacial deposits covering the Town are located in the lowland areas of the Albany Peneplain. The pre-glacial Hudson-Champlain Lowlands were deeply dissected with a trellis drainage system developed along weak shale zones (Dineen & Hanson, 1983). There are four apparent pre-glacial stream channels in the Town of New Scotland which were all tributaries of the pre-glacial Colonie Channel.

As the ice sheet advanced down the Hudson lowlands, it picked up and carried shaley materials. Its movement was eventually slowed by the high topography of the Helderbergs and its foothills. The result was that clayey basal till was deposited under the glacier and subsequently stream-lined into distinctive forms known as drumlins and flutes typical in many areas of the Town (Dineen, 1977). Till is a generic term which has been applied to unstratified, unsorted material that was ice-deposited. It generally consists of boulders and cobbles supported by a fine matrix of clay, silt, and perhaps some sand and is commonly referred to as hardpan.

As the glacial ice block began to stagnate and retreat to the north, meltwater streams flowed on, in, under, and along the margins of the ice. These meltwater streams transported and deposited sediments known as ice-contact deposits, which are partly water-sorted, stratified, and usually contain sand and/or gravel. They generally formed characteristic landforms such as eskers and kame deltas. Eskers are narrow sinuous ridges which formed in ice-walled river channels within or beneath the melting ice. Kame deltas are deltas formed in contact with the ice.

After ice-contact and outwash sand and gravel had been deposited, a large lake began to occupy the preglacial channels and lowlands in the eastern portion of the Town. This lake, known as Lake Albany, occupied the area from 15,000 to 12,600 years ago. Characteristic lake sediments were laid down throughout the lake area, sometimes over earlier ice-contact and outwash deposits. The lake itself had various different levels at

different times. The early lake had a 335(+/-) foot elevation in the Voorheesville area.

A large delta known as the Voorheesville Delta was formed into the lake by meltwaters running through channels in the Meadowdale complex. This delta is 25 to 50 feet thick and thins to the east. The Voorheesville Delta grades westward into ice-contact and/or outwash deposits, and eastward into lake silts and clays, and lake sands.

The deepest sections of the lake occurred over the northeast portion of the Town. Clays and silts were deposited in the deep portions of the lake and vary in thickness from 5 to 200 feet. Much of the lake sediments are dominated by dark gray, varved clays and silts. Commonly known as blue clay, these lake clays can be well in excess of 100 feet thick.

Approximately 12,000 years ago, the post-glacial epoch began. Alluvium, peat and muck, and marl were deposited at this time in the Town. Alluvium (floodplain deposits) are moderately to poorly-sorted, light to dark brown sands, gravels, and silts. These deposits rarely exceed 10 feet in thickness. Peat and muck are organic soils which commonly fill wet depressions in older glacial deposits. They are usually less than 3 feet thick and interfingered with alluvial deposits. Marl is very fine-grained, soft to firm, silty, white to gray calcium carbonate. It can be up to 5 feet thick.

3. Groundwater Availability and Quality

Groundwater is that portion of the subsurface water which occurs below the water table - the level at which all of the openings in rocks or unconsolidated deposits are filled with water (Winkley, 1987). Certain geologic configurations yield water better than others. If economic quantities of groundwater can be withdrawn from these geological units, they are known as aquifers. Aquifers must be porous and permeable.

Porosity is a measure of water storage. Unconsolidated clay, sand, and gravel have the highest porosities, while dense rock normally has the lowest. Some rocks, however, may develop secondary porosity due to joints and fractures.

Permeability is a measure of the ability of material to transmit water. Permeability is more important than porosity, for it determines the rate of groundwater flow and the ease of withdrawing groundwater. Well-sorted sands and gravels (those with little silt and/or clay) have excellent permeabilities and yield water very well. Clay, due to its very small particle size, has very low permeability and does not readily yield water. Bedrock can yield high quantities of water when large water bearing joints or fractures exist and are well connected.

If a layer of material with poor permeability overlies an aquifer, the aquifer is termed a confined aquifer. Water within such an aquifer is normally under pressure. If there is no overlying layer, an unconfined or water table condition occurs.

B. Groundwater in Unconfined Sand and Gravel Aquifers

Coarse-grained sand and gravel deposits generally have the best yielding capabilities because they have higher permeabilities, are usually in a favorable location to receive recharge from streams, are easy to dig or drill in, and are usually of good quality. The one disadvantage is that they are prone to contamination and require strict regulation over surface development in order to remain viable water supply resources.

The best types of materials for water supply purposes are well-sorted ice-contact and outwash sands and gravels, well-sorted deltaic sands, and beach sands. Poorer-sorted ice-

contact and outwash deposits can be important as well.

Thick deposits of sand and gravel existing at the surface form three unconfined aquifers in the Town. These three principal water-table aquifers are the New Salem Kame Delta-Meadowdale Moraine-Outwash Complex, the Voorheesville Delta, and the New Scotland Esker Complex. A smaller sand and gravel aquifer exists east of Unionville towards Feura Bush. These aquifers are illustrated on Figure 4-1 "Unconsolidated (Surficial)/(Buried) Water Supply Potential Map".

The best locations to place a well are in areas of deep, well-sorted deposits, preferably near stream and/or in low-lying areas (to receive recharge). Wells such as those of the Bethlehem Water District are capable of yielding up to 500 gallons per minute. Most domestic wells yield 5 to 50 gallons per minute.

C. Confined or Semi-Confined Sand and Gravel Aquifers

In addition to the unconfined aquifers mentioned above, there are some areas on the Town which may contain sands and gravels at depth, below less permeable deposits. This could occur in the four pre-glacial channels in the Town. The Vly Creek - Onesquethaw Creek channel was an outlet for the large lake which occurred near New Salem, and it would be expected to contain sand and gravels. Drilling in the area south of the Indian Fields Road indicates that 5 to 10 feet of coarser sand and gravel exists, overlain by 20 feet of siltier alluvium.

A larger, but less defined channel, known as the Voorheesville Channel is believed to exist between Voorheesville and Font Grove Road (Dineen, 1983). Soil logs in the Orchard Park Development indicate that ice-contact sands and gravels do underlie lake clay at depths in the range of 200 feet. Seismic data collected in the area provided some information on this channel, however, the data for the eastern end is somewhat unclear. The Vloman Kill Channel, near Unionville, is very poorly defined. Test borings in the area do not indicate sand and gravels beneath the lake clay. The final buried channel is the Mohawk Channel, located in the extreme northeast corner of the Town. Well logs indicate that a 10 foot thick sand and gravel layer may exist below a very thick, impermeable clay layer.

Even if the four channels were to contain sand and gravel, surface sand and gravel deposits would have to be hydraulically connected to the buried sand and gravels, at some point, in order for recharge to be possible.

D. Groundwater in Other Unconsolidated Deposits

Drumlinized till and lodgement till are compact and contain a great deal of silt and clay. The result is that permeability is quite low and yields are on the average of only 3 gallons per minute. Washed tills may yield up to 5 gallons per minute. Shallow, dug wells have historically been used in some areas as a limited supply, but the water level in such wells will fluctuate a great deal, and the supply may be exhausted in dry weather. Contamination of such shallow wells is always a concern.

Lake clays and silts east of New Scotland and Font Grove Road tend to be poor producers due to their low permeabilities. These varved clays are particularly poor, with yields on the order of only one gallon per minute. This volume is not high enough for even a limited domestic water supply. Although permeability remains about the same, yield is higher in turbidite sands within the clay and silt sequence than within the varved clays. Yields of 3 to 5 gallons per minute may be possible yet supply is finite due to a lack of recharge. The upper silty, sandy layer could provide similar yields, but this water may contain a good deal of sediment. Use of turbite sands is further limited because they are difficult to locate in the clay and silt sequences and tend to grade into one another.

Lake sands and silts are of moderate permeability. Springs are common at the contact between the sands and underlying clays. Yields in lake sands can range from 3 gallons per minute up to 100 GPM in deep deposit areas near recharge sources.

Alluvium only serves as an important water supply when depths exceed 10 feet (Dineen, 1983). Such a condition may exist along the Onesquethaw Valley and in the South Branch of Vly Creek. Yields on the order of 5 to 50 gallons per minute are possible. The water quality from alluvium is often dependent upon the water quality of nearby streams. Regulation of development along such streams should provide for protection against contamination in runoff waters from point and non-point sources of pollution.

E. Groundwater in Bedrock

For the most part, the bedrock formations in the Town of New Scotland are poor aquifers in terms of quantity and/or quality of supply, They are, however, relied upon for domestic water supplies where sand and gravel deposits are lacking. These bedrock formations are illustrated on figure 4-2, "Generalized Bedrock Geology and Water Supply Potential Map".

Most bedrock formations in the Town are dense and only yield water from fractures, joints, and along bedding planes. In general, fractures and joints tend to occur with less and less frequency with depth. It is therefore not cost effective to drill to depths in excess of 200 to 300 feet through rock.

The Snake Hill Formation ranges from a very poor aquifer source to a good aquifer, depending upon the frequency of fractures, joints, cleavage, and thin sandy limestone interbeds. The formation averages 16 gallons per minute, but yields can vary from 1 to 100 gallons per minute. (Fickies, 1982). Dry wells are also possible. It is very difficult to predict the success or failure of drilling, as the fracture zones cannot be adequately identified through the thick overburden. Water from the Snake Hill Formation is generally poor in quality. It may contain a great deal of hydrogen sulfide (which gives the "rotten egg" smell), as well as iron, and methane gas (natural gas). For example, a hydrogen sulfide content above a concentration of one milligram per liter renders water unfit for human consumption without extensive water treatment. This condition may be common in this formation.

The Schenectady Formation, like the Snake Hill Formation, is relatively impervious. Water is again yielded primarily from fractures and joints in the bedrock. The Schenectady Formation is apparently less fractured than the Snake Hill Formation, as reported yields are generally less than 3 gallons per minute (Arnow, 1949). In addition, groundwater from the Schenectady Formation is very high in dissolved solids, iron, and hydrogen sulfide. Areas located near the overthrust zone may also contain methane. The Schenectady and Snake Hill Formations are, therefore, poor and undesirable sources for water.

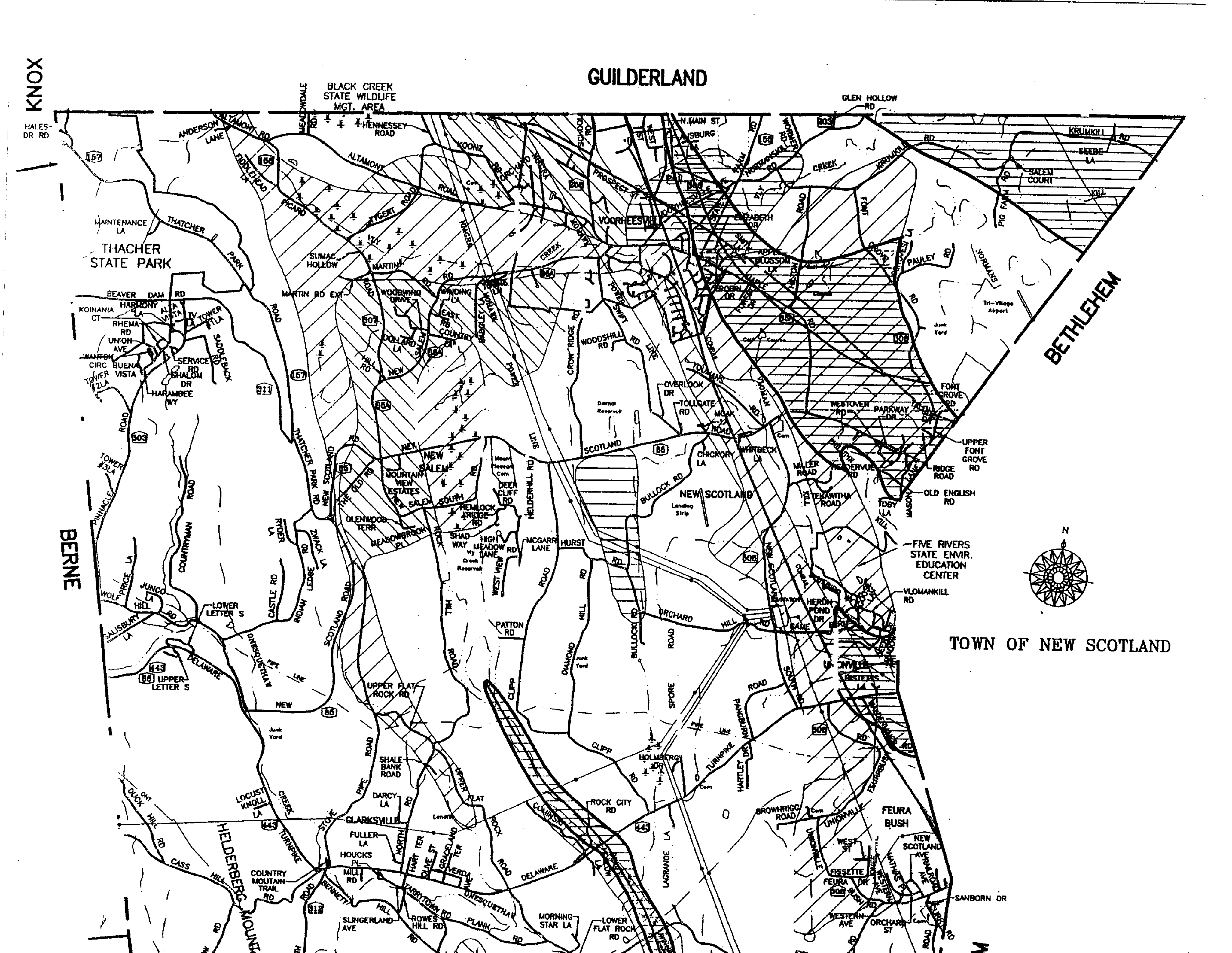
In general, the limestones of the Helderberg Peneplain have low primary permeabilities and porosities. However, limestones can develop appreciable secondary permeabilities as a result of horizontal and vertical fractures, joints, and openings. Horizontal fractures and openings along bedding planes and vertical fractures and joints can be enlarged by the dissolution action of circulating groundwater and rainwater. The success of wells depends upon the number of such openings encountered during drilling. Enlarged vertical fractures and joints have been observed within the Town area, and these may also lead down to cavernous situations. Other areas of possible fractured rock are the fault areas, and the areas of folded rock (Ruedemann, 1930). The yields from limestones in the Town on average are low, but occasional wells in fractured and/or cavernous areas have had yields in excess of 50 gallons per minute.

The Helderbergian Group Limestones have average reported yields of 3 to 4 gallons per minute (Arnow, 1949). The Helderbergian Group will remain unpredictable because of the variability in texture and the relative thinness of the better yielding formations in the Group (Manlius, Coeymans, Becraft). Like most water from limestones, the water is quite hard.

The Esopus Shale is heavily fractured and is reported to yield between 2 to 40 gallons per minute (Arnow, 1949). However, this relatively good aquifer can contain significant amounts of hydrogen sulfide. Like most water from shales, it is quite soft. Wells drilled through the Esopus and finished in the Helderberg Group can also experience some sulphur problems.

The Onondaga Limestone has an average reported yield of only 3 gallons per minute (Arnow, 1949). The Onondaga Formation has been tapped by a number of wells in the Clarksville and Tarrytown. Most of the sulphur content in these areas is probably due to solution and cave formation; large yielding wells may be possible. Several common problems are associated with limestone wells. In addition to the hardness of the water, the water level may fluctuate greatly during the year. Contaminants such as septic tank leachate and gasoline may easily enter cavernous limestones.

The Lower Hamilton Group is generally good yielding, averaging eight gallons per minute (Arnow, 1949). The Bakoven Shales within this group, however, may contain hydrogen sulfide.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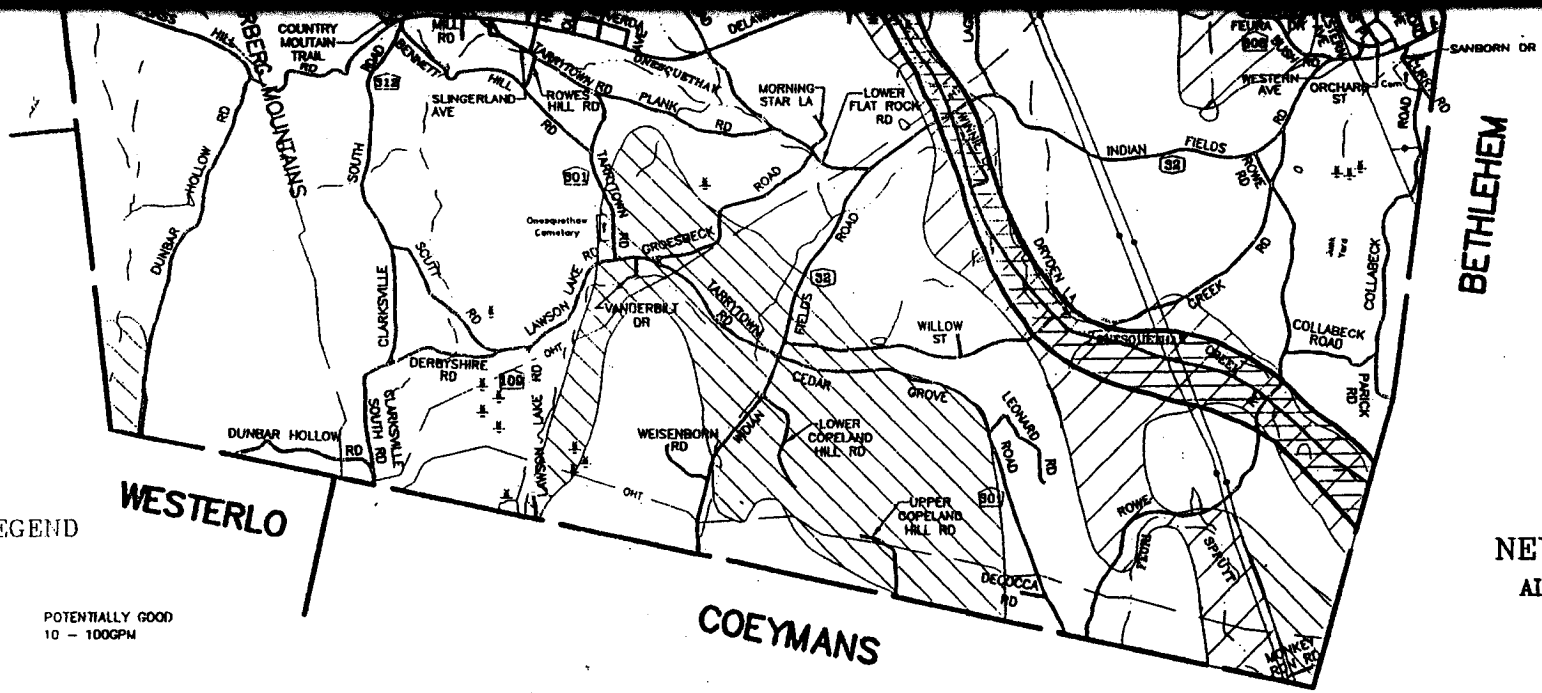
KNOX
BERNE
BETHLEHEM
TOWN OF NEW SCOTLAND
BLACK CREEK STATE WILDLIFE MGT. AREA
THACHER STATE PARK
VOORHEESVILLE
NEW SALEM
NEW SCOTLAND
CLARKSVILLE
FEURA BUSH
UNIONVILLE
FIVE RIVERS STATE ENVIR. EDUCATION CENTER
HELDERBERG MOUNTAIN
GLEN HOLLOW RD
KRUMKILL RD
SEEBE LA
SALEM COURT
ANDERSON LANE
ALTAMONT RD
HENNESSEY ROAD
MAINTENANCE LA
THATCHER PARK RD
BEAVER DAM RD
SUMAC HOLLOW
MARTIN RD EXT
WOODWIND DRIVE
CROW RIDGE RD
WOODSHILL RD
OVERLOOK DR
TOLLGATE RD
SCOTLAND RD
CHICKORY LA
WHITBECK LA
BULLOCK RD
MILLER ROAD
WESTOVER RD
PARKWAY DR
FONT GROVE RD
UPPER FONT GROVE RD
RIDGE ROAD
OLD ENGLISH RD
TEKAWITHA ROAD
TOBY LA
VLOMANKILL RD
HERON POND DR
MOUNTAIN VIEW ESTATES
GLENWOOD TERR
MEADOWBROOK PL
HEMLOCK RIDGE RD
DEER CLIFF RD
HELDERHILL RD
MCGARR LANE
HURST RD
SHAD WAY
HIGH MEADOW LANE
WEST VIEW RD
PATTON RD
DIAMOND HILL RD
ORCHARD HILL RD
SPORE ROAD
UPPER FLAT ROCK RD
SHALE BANK ROAD
DARCY LA
CLIPP RD
HOLMBERG DR
HARTLEY DR
PANGBURN RD
ROCK CITY RD
BROWNRIGG ROAD
LOCUST KNOLL LA
COUNTRY MOUNTAIN TRAIL RD
FULLER LA
HOUCKS PL
MILL RD
SLINGERLAND AVE
ROWES HILL RD
TARRYTOWN RD
PLANK RD
MORNING STAR LA
LOWER FLAT ROCK RD
LAGRANGE LA
FISSETTE DR
WESTERN AVE
ORCHARD ST
NEW SCOTLAND AVE
SANBORN DR
LOWER LETTER S
UPPER LETTER S
CASTLE RD
INDIAN LEDGE RD
RYDER LA
ZWACK LA
COUNTRYMAN ROAD
JUNCO LA
SALISBURY LA
WOLF HILL RD
PRICE LA
KOINANIA CT
HARMONY LA
RHEMA RD
UNION AVE
SERVICE RD
SHALOM DR
HARAMBEE WY
BUENA VISTA
DELAWARE TURNPIKE
ONESQUETHAW CREEK



LEGEND

- POTENTIALLY GOOD 10 – 100GPM
- MODERATE YIELD VARIABLE YIELD (GPM)
- MODERATE YIELD <10GPM
- LOW YIELD POTENTIAL 0 – 10GMP
- UNCONSOLIDATED (BURIED)
  - POSSIBLE EXTENT OF CHANNEL
- REQUIRES FURTHER EXPLORATION TO DETERMINE YIELD POTENTIAL
  - DEEPEST PORTION OF CHANNEL

TOWN OF
NEW SCOTLAND
ALBANY COUNTY
NEW YORK

BAR SCALE

4800 0 2400 4800 9600

1 inch = 4800ft.

Figure 4-1

UNCONSOLIDATED (SURFICIAL)/(BURIED)
WATER SUPPLY POTENTIAL MAP

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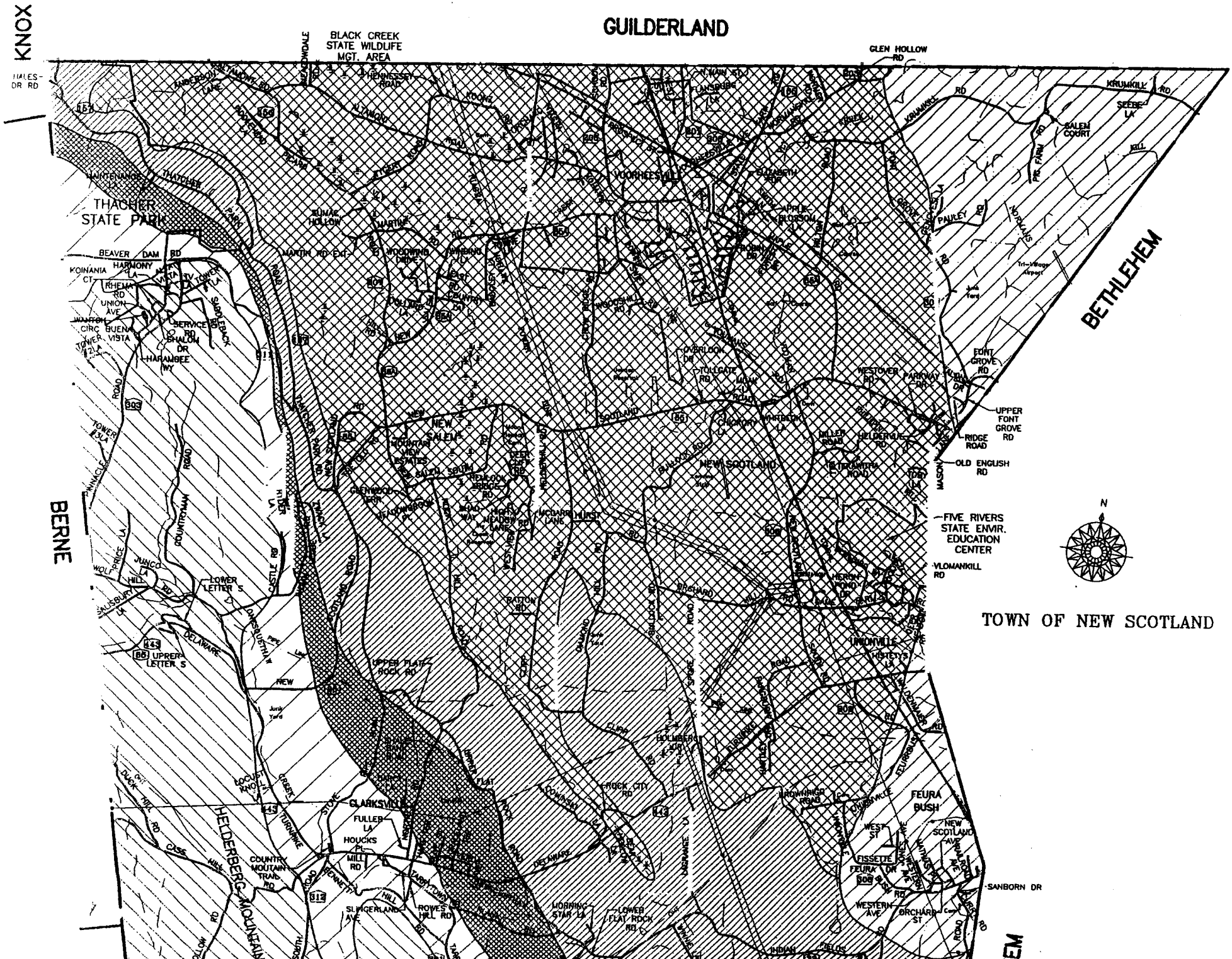
NEW SCOTLAND COMPREHENSIVE PLAN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SALEM COURT
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RIDGE ROAD
OLD ENGLISH RD
SANBORN DR
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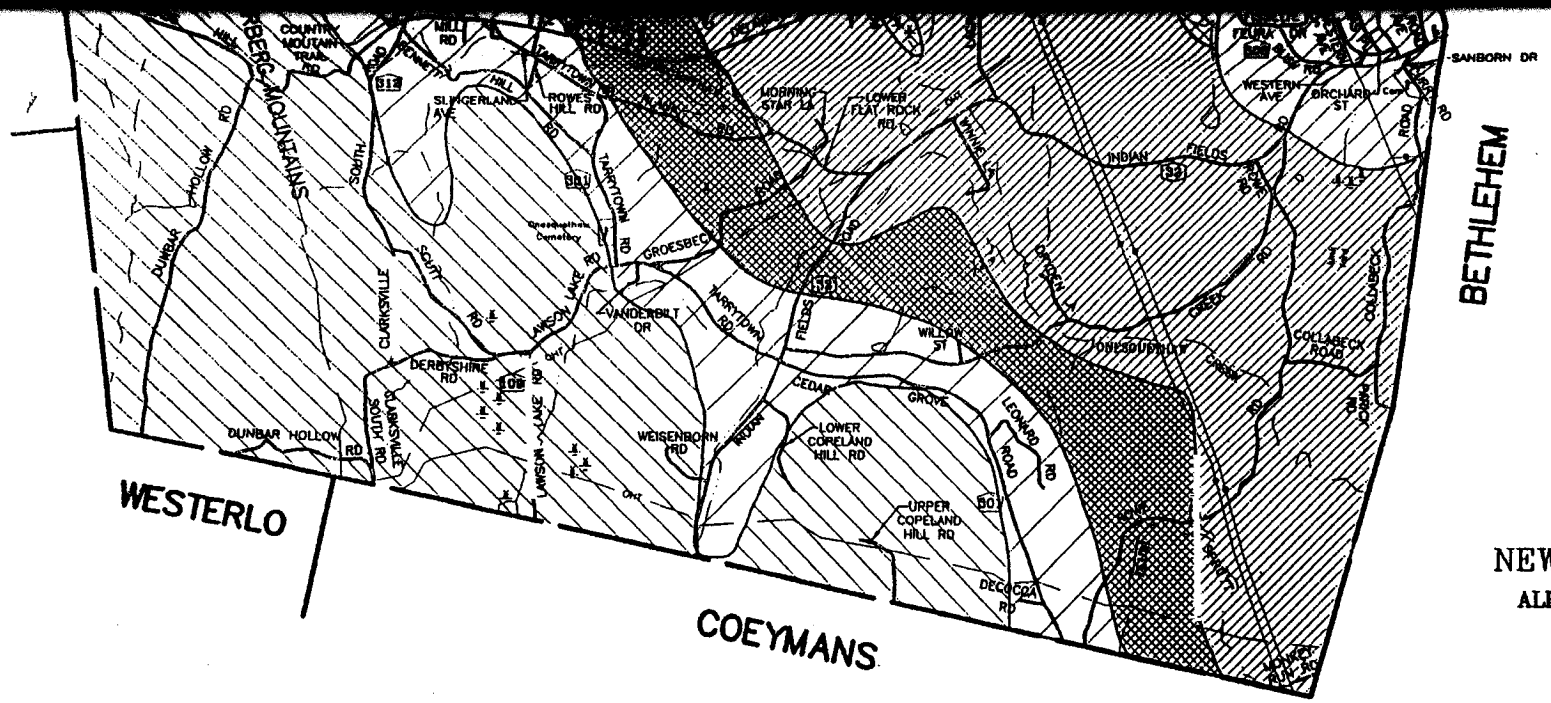

Figure 4-2

GENERALIZED BEDROCK
GEOLOGY & WATER SUPPLY POTENTIAL

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F. Water Quality

Water quality in the Town covers a broad range from good to treatable. The following water quality conditions have been encountered:

- Hydrogen Sulfide Gas (H_2S) - some wells have reported the presence of H_2S gas (rotten egg odor). This is likely caused by chemical and bacterial action which reduces iron sulfates, present in black shales, to sulfide. H_2S in concentrations of less than one milligram per liter is generally not considered harmful to consume, it can be, however, unpleasant. H_2S gas is generally treatable with available technology.

- Water hardness (Calcium and Magnesium content) - Water hardness varies markedly across the Town. Reported water hardness values range from less than 10 ppm (parts per million), considered very soft water, to greater than 350 ppm, considered very hard water. Water hardness is generally dependent on the chemical conditions of the rock or deposit through which the water flows. Most waters in the Town of New Scotland can be softened satisfactorily and economically.

- Chloride (salt) - Chloride may be naturally present in water from excessively deep wells. Chloride content has also been reported in local wells as a result of road salt storage and/or usage in the northern portion of the Town. Chloride is generally treatable with available technology.

- Iron - Many wells in the Town yield water which is relatively high in iron. Iron content, while not generally harmful, is disagreeable in taste and may stain clothes and cooking utensils. The occurrence of iron is generally treatable.

- Methane gas (CH_4) - a colorless, tasteless and odorless gas is a product of the decomposition of organic matter in unconsolidated and geologically young deposits. While not harmful to consume, methane gas can present an explosion hazard in poorly ventilated areas such as well heads, basements and water tanks.

G. Potential Impacts to Groundwater

Shallow aquifer deposits which receive recharge from local runoff and precipitation can be negatively impacted by various types of land uses and by inappropriate land development.

Some land uses impact aquifer performance because they limit aquifer recharge and can limit long-term aquifer production; other land uses can degrade water quality by introducing undesirable components to the recharge or subsurface flow regime. Land uses which can effect groundwater quantity include:

- Land development that includes large areas of asphalt or concrete paving. Paved surfaces limit the recharge of shallow deposits by minimizing downward percolation of precipitation and by hastening runoff away from recharge areas.

- High density development that relies on wells; more specifically high well density may have overlapping cones of influence and can contribute to a decline in the long-term aquifer productivity for certain water users.

- Sewer Districts which rely on an on-site groundwater supply but discharge wastewater to a sewer system, threaten long-term aquifer productivity due to this system of groundwater export. Treated effluent has been demonstrated to be an important contribution to aquifer recharge and in some areas may be required to sustain the long-term production of the aquifer.

- Sand and Gravel mining and Quarry Activities can have a negative effect on groundwater quantity. Dewatering for mining activities can permanently lower water tables, especially when coupled with the removal of aquifer deposits such as sands and gravels.

Land uses which may have a detrimental effect on groundwater quality include:

- Leaking underground storage tanks. Underground storage tanks and piping can fail or leak for many reasons, most commonly due to age or improper installation. Tanks under 1,100 gallons (or which have a combined capacity of 1,100 on one site) are not currently regulated by the State. Even minor leaks from underground tanks can seriously impact on-site or off-site wells.

- On-site septic systems if poorly designed or installed in marginal or poor areas, and/or systems which are frequently overloaded can adversely impact on-site or off-site wells. On-site septic and water supply are not necessarily incompatible, however, strict code enforcement and an understanding of the groundwater flow system are necessary to assure long-term compatibility.

- Fertilizers, Pesticides and Herbicides applied directly to soil in residential and agricultural areas can impact on-site wells. While most of the components of these chemicals are readily adsorbed by soil or degraded biologically, a portion could leach into groundwater resources. This is especially true when applied in excess of recommended application rates and dosages.

- Sand and gravel mining activities can strip surficial aquifers of several feet of protective cover. This can make aquifers more susceptible to pollution from runoff or spills.

- Landfills, even properly designed with liners and leachate collection systems should not be located within principal aquifer recharge areas.

- Stockpiles of road de-icing salt potentially present a very large impact to local unconsolidated surficial wells both from runoff and leachate. Stockpiles, even for temporary storage, should be stored on an impervious surface and sheltered from wind and rain. Road de-icing salt applied during the winter can also adversely affect shallow wells which are located near heavily salted roadways.

- Spills and liquid discharged onto the ground surface can migrate downward to degrade groundwater quality. Accidents involving above ground pipelines, storage tanks and barrels, railroad cars and trucks can release large quantities of a pollutants at a particular site. Automobile waste oil is potentially a large source of deliberately dumped pollutant.

H. Water Resources - Suitability for Well Placement

Based on the analysis of both surficial and bedrock geological formations and the quantities and quality of ground water from each of these formations a composite map was generated. The map lists eleven categories which attempt to identify the level of probability

for drilling successful ground water supply wells. These categories are listed from the best to the worst conditions for well development. The following assumptions were established prior to generating the map.

For surficial deposits three categories were derived from the "Unconsolidated Surficial Water Supply Potential Map". First it was assumed that high yielding surficial deposits are the best formations for water supply purposes regardless of underlying bedrock geology. Secondly both of the moderate yielding categories from the "Unconsolidated Surficial Water Supply Potential Map" were combined to simplify the mapping process. It should be noted that the source found to consistently yield > 10 GPM lies between the Hamlets of New Scotland and New Salem. The other moderate yielding formations vary in yield from 0 to 10 GPM. All other portions of the town have low yielding surficial deposits or no surficial deposits. Wells drilled in areas with minimal surficial deposits must rely on bedrock sources for water supplies.

All Town bedrock sources have some limitations for water supply purposes. These include hard water, sulfur, methane, and generally lower yields than surficial deposits. For bedrock formations four categories were established from the Generalized Bedrock Geology and Water Supply Potential Map. The Helderbergian bedrock formations were considered good for groundwater supply purposes even though yields are somewhat unpredictable ranging from 0 to 50 GPM. This was primarily due to the fact that average formation yields of 3-4 GPM typically meet the minimum standard for home supply wells and have no quality problems other than hardness of water which is easily treated with softening equipment. The Lower Hamilton Group and Esopus Shale formations both yield between 0 and 20 GPM. In addition, both may have sulfur contamination which can be treated using standard treatment equipment. For these reasons, both categories were combined to form the second best bedrock classification for the "Water Supply Resource Map".

The Snake Hill formation ranges from 0 to 100 GPM thus potentially having the highest yield for a bedrock formation in the town. Though the formation potentially has high yields, it also has very poor quality including high concentrations of sulfur and potentially hazardous quantities of methane gas. These quality limitations are treatable, however, the costs associated with treatment of the source may prohibit large scale development. For these reasons this source was listed as the third most desirable bedrock formation.

Both Schenectady Formations and Onondaga Limestone Formations are low yielding, averaging less than 3 GPM. Sulfur contamination may be present in both formations and water from Onondaga Limestone formations tends to be hard. High yielding wells are possible from these two formations as indicated by the Clarksville Water District Wells, however, the unpredictability and overall low yields limit the suitability of these formations. Therefore, these bedrock types were combined and classified as the lest desirable bedrock formations for potential well exploration.

The ideal condition, for well exploration, are sites with high yielding surficial deposits and moderate yielding, good quality bedrock formations. In this situation, the likelihood of locating a successful well would be high from both surficial and bedrock formations. The least desirable situation would be one where no surficial sources are available and where bedrock sources are low yielding and of poor quality. Table 4-1 illustrates the eleven classifications that exist in New Scotland when the surficial and bedrock maps were overlaid and combined. These categories correspond to those illustrated on figure 4-3, "Water Supply Resource Map".

TABLE 4-1

Suitability Classifications

A. Surficial Deposits

#	DESCRIPTION
1.	Potentially Good Surficial Water
2.	Moderate Yield Surficial Water
3.	Low Yield surficial Water

Bedrock Formations

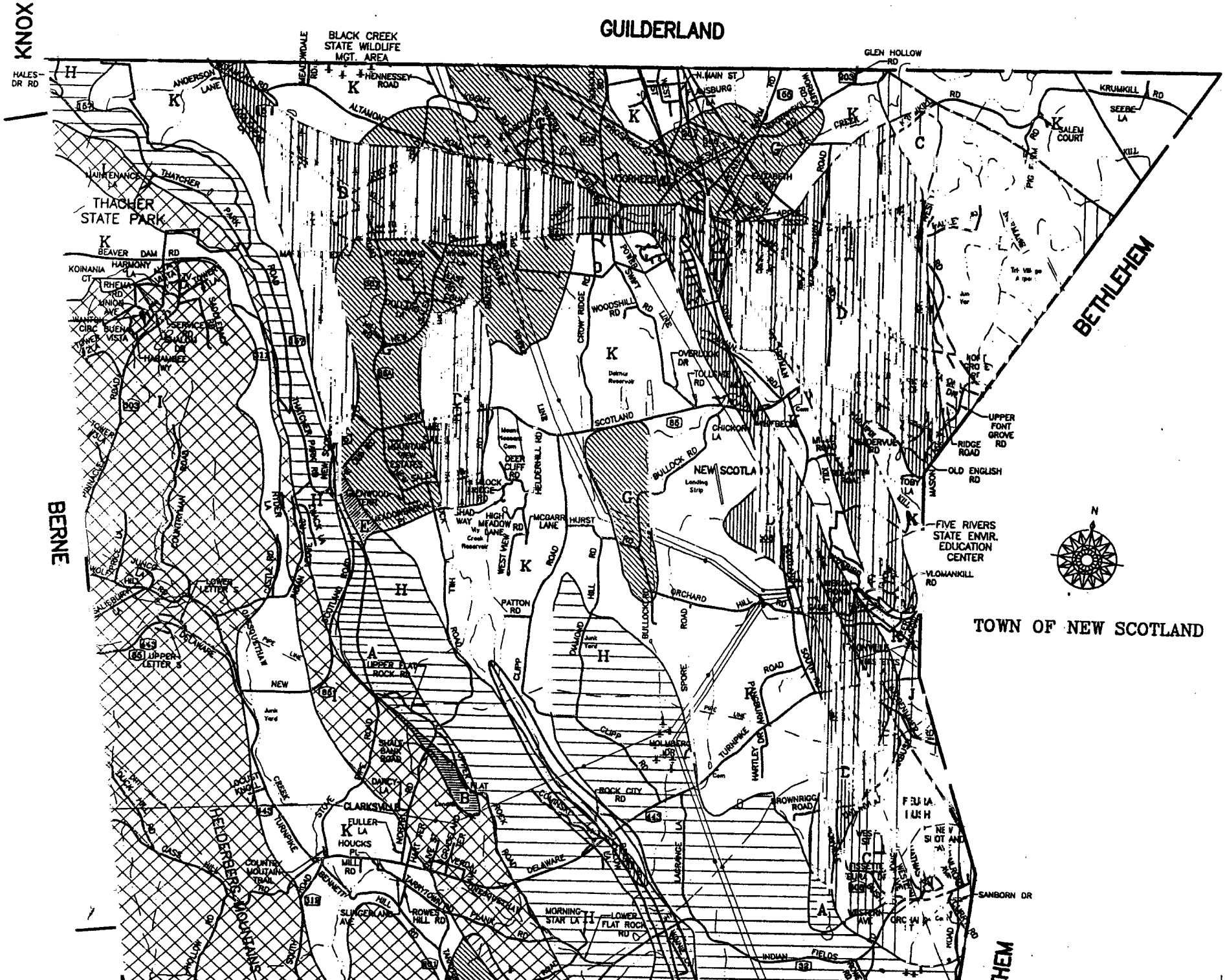
#	DESCRIPTION
a.	Moderate Yield & Quality Bedrock
b.	Moderate Yield/Sulfur Bedrock
c.	Low Quality/Potentially High Yield Bedrock
d.	Low Yield/Sulfur Bedrock

B. Potential Combinations-Surficial and Bedrock Formations

KEY	#	DESCRIPTION
A	1a	Potentially Good Surficial Water/Moderate Yield & Quality Bedrock
B	1b	Potentially Good Surficial Water/Moderate Yield/Sulfur Bedrock
C	1c	Potentially Good Surficial Water/Low Quality/Potentially High Yield Bedrock
D	1d	Potentially Good Surficial Water/Low Yield/Sulfur Bedrock
E	2a	Moderate Yield Surficial Water/Moderate Yield & Quality Bedrock
F	2b	Moderate Yield Surficial Water/Moderate Yield/Sulfur Bedrock
	2c	Moderate Yield Surficial Water/Low Quality/Potentially High Yield Bedrock
G	2d	Moderate Yield Surficial Water/Low Yield/Sulfur Bedrock
H	3a	Low Yield Surficial Water/Moderate Yield & Quality Bedrock
I	3b	Low Yield Surficial Water/Moderate Yield/Sulfur Bedrock
J	3c	Low Yield Surficial Water/Low Quality/Potentially High Yield Bedrock
K	3d	Low Yield Surficial Water/Low Yield/Sulfur Bedrock
NOTE:		No conditions exist in the Town where Moderate Yield Surficial Water and Low Quality/Potentially High Yield Bedrock overlap therefore this category has no KEY classification.

I. Recommendations and Conclusions

Water resources in the Town of New Scotland appear to be adequate to supply the future needs of the Town's people provided steps are taken to: adequately protect aquifer recharge areas, regulate densities in areas where potential water sources are minimal and explore future development of municipal water supplies in areas identified as having the highest potentials for good quality and quantities of water. Table 4-2 identifies the acreages for each of the eleven suitability classifications identified on the "Water Supply Resource Map" for New Scotland.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BLACK CREEK STATE WILDLIFE MGT. AREA
FIVE RIVERS STATE ENVIR. EDUCATION CENTER
HELDERBERG MOUNTAINS
N
HALES-DR RD
HENNESSEY ROAD
ALTAMONT
GLEN HOLLOW RD
KRUMKILL RD
SEEBE LA
SALEM COURT
N. MAIN ST
FLATSBURG
VOORHEESVILLE
ELIZABETH
APPLE
BEAVER DAM RD
HARMONY LA
KOINANIA CT
RHEMA RD
UNION AVE
WANTON CIRC
BUENA VISTA
TOWER DR
HIAWATHEE WY
TOWER RD
PINNACLE
COUNTRYMAN
WOLF PRICE LA
LOWER LETTER S
UPPER LETTER S
SALISBURY LA
DUANESBURG
NEW SCOTLAND
SCOTLAND
TWIKEN
RIVER LA
HILLCREST
WOODSHILL RD
CROW RIDGE RD
OVERLOOK DR
TOLLGATE RD
DELMAR Reservoir
DEER CLIFF RD
HELDERHILL RD
CHICKORY LA
BULLOCK RD
BULLOCK RIDGE RD
JHAD WAY
HIGH MEADOW LANE
Vly Creek Reservoir
WEST VIEW RD
MCGARR LANE
HURST
PATTON RD
PATTON HILL
ORCHARD HILL RD
ORCHARD ROAD
CLAPP ROAD
SPORE ROAD
SCOTCH RD
HARTLEY DR
TURNPIKE
ROCK CITY RD
BROWNRIGG ROAD
LABRANGE
DELAWARE
SHALE BANK ROAD
UPPER FLAT ROCK RD
LOWER FLAT ROCK RD
MORNING STAR LA
CLARKSVILLE
FULLER LA
HOUCKS PL
MILL RD
DANCY LA
COUNTRY MOUNTAIN TRAIL RD
BENNETH
SLINGERLAND AVE
ROWES HILL RD
INDIAN FIELDS
SANBORN DR
WESTERN AVE
RIDGE ROAD
UPPER FONT GROVE RD
OLD ENGLISH RD
TOBY LA
MASON
VLOMANKILL RD
VLOMANKILL
NEW SCOTLAND Landing Strip
Junk Yard
Pmc
Vac
Cem
Mtn
Creek
Stone Quarry
Dam
Reservoir
Pond
Marsh
Swamp
Orchard
Vineyard
Nursery
Tank
Tower
Mine
Quarry
Pit
Gravel Pit
Sand Pit
Clay Pit
Rock
Ledge
Cliff
Bridge
Ford
Ferry
Lock
Dock
Wharf
Pier
Jetty
Breakwater
Seawall
Levee
Dike
Canal
Ditch
Flume
Penstock
Turbine
Generator
Transformer
Substation
Power Line
Pipeline
Gas Line
Oil Line
Water Line
Sewer Line
Telephone Line
Telegraph Line
Radio Tower
TV Tower
Antenna
Weather Station
Observatory
Airport
Runway
Heliport
Helipad
Hangar
Control Tower
Terminal
Station
Depot
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Mill
Foundry
Smelter
Refinery
Plant
Office
Store
Restaurant
Hotel
Motel
Inn
Tavern
Bar
Church
School
Library
Museum
Hospital
Clinic
Cemetery
Park
Playground
Golf Course
Campground
Picnic Area
Trail
Path
Road
Street
Avenue
Boulevard
Drive
Lane
Court
Place
Terrace
Circle
Way
Alley
Parkway
Turnpike
Expressway
Freeway
Interstate
U.S. Route
State Route
County Route
Township Road
Private Road
Dirt Road
Gravel Road
Paved Road
Bridge
Tunnel
Overpass
Underpass
Interchange
Ramp
Toll Booth
Rest Area
Scenic Overlook
Historical Marker
Monument
Memorial
Statue
Fountain
Well
Spring
Cave
Sinkhole
Fault
Contact
Outcrop
Boulder
Glacial Erratic
Moraine
Kame
Esker
Kettle
Drumlin
Terminal Moraine
Lateral Moraine
Medial Moraine
Ground Moraine
Till
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Mudstone
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Copper
Lead
Zinc
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Silver
Uranium
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Gravel
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Aggregate
Concrete
Asphalt
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Tile
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Wire
Cable
Fiber Optic
Microwave
Satellite
Radar
Sonar
Lidar
GPS
GIS
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Grassland
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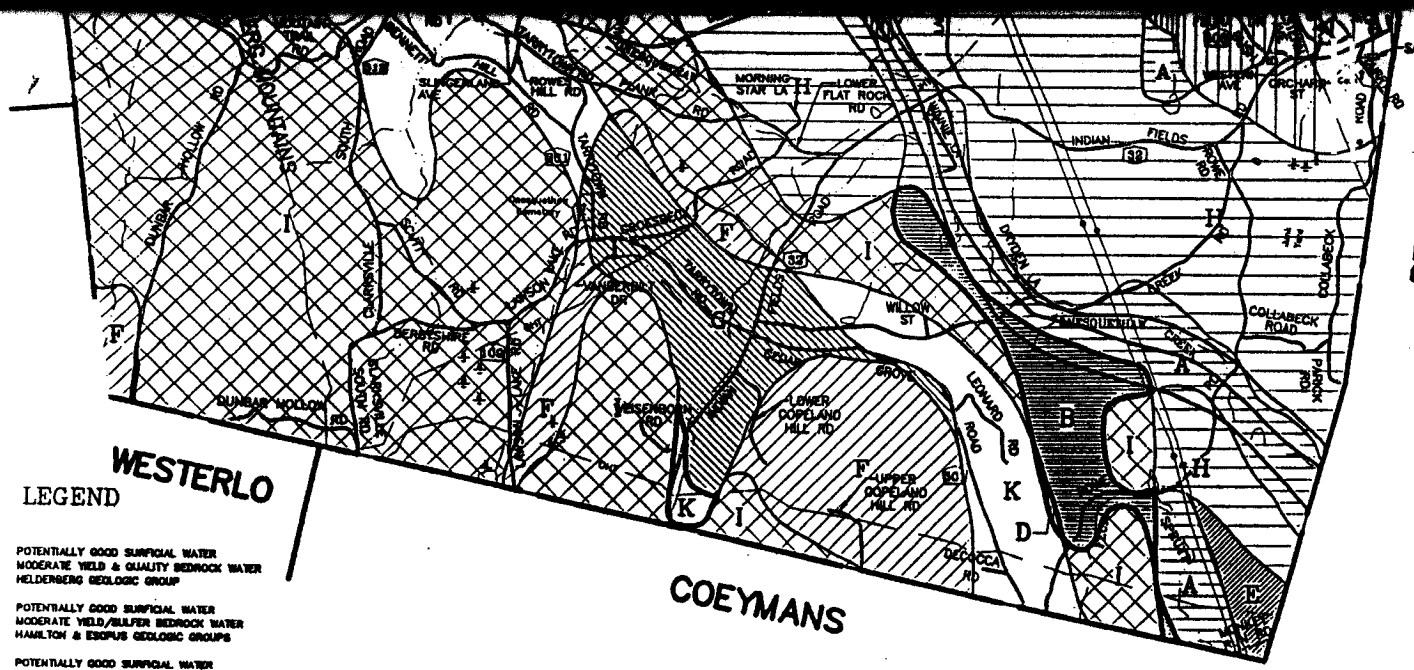


LEGEND

A POTENTIALLY GOOD SURFICIAL WATER
MODERATE YIELD & QUALITY BEDROCK WATER
HELDERBERG GEOLOGIC GROUP

B POTENTIALLY GOOD SURFICIAL WATER
MODERATE YIELD/SULFER BEDROCK WATER
HAMILTON & ESOPUS GEOLOGIC GROUPS

C POTENTIALLY GOOD SURFICIAL WATER
LOW QUALITY/POTENTIALLY HIGH YIELD BEDROCK WATER
SNAKE HILL GEOLOGIC GROUPS

D POTENTIALLY GOOD SURFICIAL WATER
LOW YIELD, SULFER BEDROCK WATER
SCHENECTADY & ONONDAGA GEOLOGIC GROUPS

E MODERATE YIELD SURFICIAL WATER
MODERATE YIELD & QUALITY BEDROCK WATER
HELDERBERG GEOLOGIC GROUP

F MODERATE YIELD SURFICIAL WATER
MODERATE YIELD/SULFER BEDROCK WATER
HAMILTON & ESOPUS GEOLOGIC GROUP

G MODERATE YIELD SURFICIAL WATER
LOW YIELD/SULFER BEDROCK WATER
SCHENECTADY & ONONDAGA GEOLOGIC GROUPS

H LOW YIELD SURFICIAL WATER
MODERATE YIELD & QUALITY BEDROCK WATER
HELDERBERG GEOLOGIC GROUP

I LOW YIELD SURFICIAL WATER
MODERATE YIELD/SULFER BEDROCK WATER
HAMILTON & ESOPUS GEOLOGIC GROUPS

J LOW YIELD SURFICIAL WATER RESOURCES
LOW QUALITY/POTENTIALLY HIGH YIELD BEDROCK WATER
SNAKE HILL GEOLOGIC GROUPS

K LOW YIELD SURFICIAL WATER RESOURCES
LOW YIELD/SULFER BEDROCK WATER
SCHENECTADY & ONONDAGA GEOLOGIC GROUPS

BURIED UNCONSOLIDATED SOURCE REQUIRES FURTHER EXPLORATION TO DETERMINE YIELD POTENTIAL

TOWN OF
NEW SCOTLAND
ALBANY COUNTY
NEW YORK

BAR SCALE
4800 0 2400 4800 9600
1 inch = 4800ft.

Figure 4-3

WATER SUPPLY RESOURCE

C.T. MALE ASSOCIATES, P.C.
50 Century Hill Drive, P.O. Box 727, Latham, NY 12110
(518)786-7400 • (518)786-7299
Engineering Surveying Architecture Landscape Architecture
Computer Services

Table 4-2

Areas Available Per Suitability Classification

Water Supply Resource Map

AREA	ACREAGE	@ PERCENTAGE OF TOWN LANDS
A	1,097.0+/-	3%
B	395.0+/-	1%
C	360.0+/-	1%
D	5,015.0+/-	14%
E	128.0+/-	0.5%
F	860.0+/-	20.5%
G	3,356.0+/-	9%
H	5,439.0+/-	15%
I	8,227.0+/-	23%
J	1,818.0+/-	5%
K	9,550.0+/-	26%
TOTAL	36,245.0	100%

From this table it can be seen that roughly 6,867 acres or about 19% of the Town has potentially good surficial water supply resources (key areas A,B,C,D). About 1,492 acres also have moderately good yielding bedrock resources of varying quality (key areas A.B). On the other hand, roughly 25,035 acres, or about 70% of the Town has no surficial resources of any value (key areas H,I,J,K). About 11,368 acres or about 31% of the Town also have low yielding and/or poor quality bedrock water resources (key areas J,K).

Those areas where water potentials are high must be regulated to protect the Town's limited water resources. Those areas with minimal water resources should be kept at low densities and/or be designated for land uses that are not water use intensive. Land uses of this nature might include forestry, some manufacturing and warehouse land uses, agricultural use that do not require irrigation or very low density residential on large lots, where adequate water can be found and purified. These restrictions and regulations should remain in effect until such time (if ever) that it becomes economically and physically possible to service the areas with municipal water.

Section V. Existing Land Uses

An inventory of the built environment is an important starting point in the land planning process. This section presents a land use inventory updated early in the planning process with information gathered in 1989. The patterns which emerge from the study can be examined for strengths and weaknesses. Land use regulations, which attempt to fortify desirable patterns, and diminish undesirable ones, can be developed based on the findings. Vacant land can be zoned for development that will compliment neighboring uses.

A. Existing Land Uses

An inventory of land uses in New Scotland was completed as part of the first master plan. When comparing that inventory to the land uses present today, it becomes clear that New Scotland remains largely unchanged since 1960, except that farming has decreased.

The last plan identified five hamlet areas containing homes, community buildings and commercial facilities. The hamlets identified in 1960, namely Clarksville, Feura Bush, New Salem, New Scotland and Unionville, are still active centers. These hamlets cover about 17% of the Town's total land area (about 6,200 out of 36,200 acres).

Outside of the hamlets, the Town is rural. Open, undeveloped lands including woodlands, wetlands, agricultural areas, brushlands and public land holdings, are scattered throughout the Town. The greatest use of these rural lands is for agriculture. Public open space and preserve lands also consume a great deal of the acreage in Town. Public lands include the John Boyd Thatcher State Park, Five Rivers State Environmental Education Center, Black Creek, a State Wildlife Management Area and two New Scotland Town Parks.

There are also a number of water bodies in New Scotland. The largest of which, the Vly Creek Reservoir, covers substantial surface area in the center of Town, just southeast of New Salem.

About 43% of the land in Town is zoned for housing and related uses (yards, accessory structures, infrastructure, etc.). Most homes[6] are traditional detached single family residences, although there is a mobile home park, and a number of multiple unit structures and independent trailer homes.

Housing is located in hamlets or scattered throughout the Town along existing State, County and Town roads. Home development since the last plan has not concentrated in any one particular area or been built within large subdivisions; rather it has been located, lot by lot, at many different locations.

B. Hamlets

Hamlets act as community centers in Town. Most community facilities and commercial development lie within these areas, as does much of the housing. While there are no population statistics available for hamlets, based on the number of residences counted, it appears that each hamlet contains 400 to 500 residents, with the exception of Unionville which has an approximate population of 300.

With the introduction of public water in Clarksville, each hamlet has some access to public water facilities, mostly through Bethlehem Water Districts or the Village of Voorheesville. None have access to public sewer facilities. (In fact, the only homes with public sewer facilities are approximately 25 residences in the northeastern corner of Town which are served by the Bethlehem Sewer District.)

Each hamlet, except Clarksville, has experienced residential development since the last plan. New Scotland and New Salem each expanded by over 30 dwellings. Unionville and Feura Bush each expanded by about 20.

1. New Salem

The hamlet of New Salem is located in New Scotland's northwestern quarter near the base of the Helderberg Mountains. At the core of the hamlet is the crossroad of Routes 85 and 85a.

One hundred and sixty-four (164) residences were counted in New Salem. Most were located on Route 85a, 85 or New Salem Road. Residential development fills a continuous strip of Route 85a, from about 500 yards south of its intersection with Route 85, to 600 yards north of it. Residential development also lines most of Route 85. Since the last plan, a number of new residences have been built along New Salem South Road.

Five commercial sites were counted in New Salem. This is a minor reduction since the last plan when there were six enterprises. Three out of the five current enterprises are located within the Bethlehem Water District No. 1 that lies in two areas of the hamlet.

There are several community facilities in New Salem. A firehouse, the Wyman Osterhout senior citizens' center and a firemen's social club lie close to the hamlet's center. The Town highway garage is located near the hamlet's southwest border.

[6]See Section VII, Community Development Analysis.

2. Unionville

The hamlet of Unionville, lying along the eastern border of New Scotland adjacent to the Town of Bethlehem, has remained relatively undeveloped since the last plan. Residential strip development along Route 443 accounts for sixty percent of the hamlet's development. One hundred (100) homes and 2 trailers were counted in this hamlet. There are no commercial enterprises in Unionville. A church, cemetery and firehouse are the semi-public community facilities present.

3. Clarksville

Clarksville is located on Route 443 in the southwest quadrant of Town, near the base of the Helderberg Mountains. Most residences in Clarksville are located in a "strip" fashion along State Route 443. Additional development exists off the main highway on Olive Street, Grayceland and Slingerland Avenues, and on other Town and county roads which intersect Route 443. A small concentration of commercial establishments has formed along Route 443 near the Plank Road intersection.

Topographic conditions have contained development in Clarksville in a compact fashion along main through roads. To the south is Bennet Hill, a drumlin formation, to the north are areas of steep slope on both sides of North Road, limiting side road or driveway development, and to the west steep slopes of the Helderberg Mountains limit extensive expansion of the hamlet. The presence of several streets east of the North Road, Route 443 intersection, and the continuous increase of commuter and through traffic on Route 443 should encourage future development to locate on interior residential blocks in this area.

4. Feura Bush

Feura Bush is located in the Town's southeast quadrant adjacent to the Town of Bethlehem. Many of the 147 homes located in this hamlet are in residential "strips" along Route 32. Other units are in interior areas served by local arteries including Mathias Place, New Scotland Avenue, Orchard Street, Western Avenue, Jones Avenue and Fissette Drive. The latter is illustrative of a more favorable concentrated development which holds Town road maintenance costs to a minimum and reduces traffic congestion on through roads.

Home building since the last plan has occurred in the northwest, on Route 308 and Jones Avenue; in the center, along Mathias Place; and in the east, along Quarry Road and Collaback Road.

Some commercial developments have clustered near the eastern end of the hamlet. These include a restaurant, tavern, and truck repair garage. These establishments provide a reasonable land use transition between the railroad tracks in Bethlehem and nearby residential areas. In addition, several community facilities are located in this portion of the hamlet. These include a post office, a church, a cemetery and a fire house.

5. New Scotland

The hamlet of New Scotland is located in the Town's northeast. Most homes in the hamlet are located along Route 85, the hamlet's major east to west thoroughfare. Residential development also exists along Swift Road, New Scotland South Road, Mason Road and Upper Font Grove Road. Each of these roads run north to south, and intersect with Route 85.

There are approximately 160 residences in the hamlet of New Scotland. There is also a mobile home park. Home construction since the last plan has occurred along Swift Road and along the eastern end of Route 85, where public water from the Bethlehem Water District is available.

New Scotland contains more commercial uses than any other hamlet in Town. Most of these establishments are scattered along Route 85. They include: a golf driving range, a new car dealership, a used car dealership, a pizza parlor, a meat market, a nursery, a craft shoppe, a restaurant with office space, an auto repair garage, a lumber company, an ice cream stand, and an architect/builder. Stonewell Plaza, at the intersection of 85 and 85a, contains a restaurant, grocery store, card shoppe and a video store. In addition, a few vacant stores exist in the hamlet.

The Town Hall and a firehouse are two public buildings within the hamlet; a church and cemetery make up the semi-public uses.

6. Future Development in Existing Hamlets

All of the hamlets in New Scotland can accommodate some additional development near their informal borders and on interior lots. Like all areas in the Town, their development potential depends on the land's ability to supply water and accommodate sewer facilities; or in the event of unfavorable natural conditions, the accessibility to public (or private) water and sewer systems.

A limited water supply has historically limited development in New Scotland. But each hamlet now has some, if limited, access to public water supplies. The availability of public water will eliminate the restriction posed by lack of acceptable natural water resources. In Clarksville, where natural water conditions have severely restricted development in the past, a new district supplies water to almost the entire hamlet. Where access to the public water supplies are more limited (New Scotland, Unionville and New Salem), acceptable natural resources sufficient to support additional development exist in varying quantities and qualities.

Septic suitability is another major determinant of development potential. Without built sewer facilities, the ability of the land to safely accommodate septic systems, largely determines safe development density of an area. With the exception of Clarksville, the hamlets in the Town can accommodate individual septic systems fairly well, at a density of at least one unit per acre.

Natural conditions enable each hamlet to safely accommodate additional development at a density of one unit per acre. If at any time both water and sewer facilities were introduced in one of these hamlet areas, safe density could jump to one unit per quarter acre.

Although each hamlet offers the opportunity for growth, the hamlet of New Scotland is expected to experience relatively more new residential and neighborhood development over the next 20 years than the other hamlets. This is because of its location within the Town's northeast, where there has been a good deal of interest expressed in new development. Similarly, Feura Bush, given its proximity to the Bethlehem Industrial Park, is a logical site for future growth.

C. Historic Character

New Scotland is still an essentially rural community. While long lost in many Capital District suburbs, the traditional development pattern, were buildings are clustered

in hamlet areas and outer areas remain open, is still dominant in New Scotland. This development pattern gives the Town an historic context. Scattered throughout, the many residential structures, farms, inns, schools and churches provide more apparent historic charm, as do several of the compact hamlets.

A trend in the hamlets has been noticeable. Homes are being converted into mixed use buildings. Residential structures are now being used for residential purposes on one floor and for offices on another. To this point, the architectural character of New Scotland hamlet areas has not been significantly altered by this phenomenon. However, this change in hamlet land use should be monitored and regulated by land development ordinances/zoning to ensure that New Scotland's hamlet character are maintained.

Since the 1970s, many homes scattered throughout the Town have been listed with the State Department of Parks and Recreation and/or on the National Register of Historic Places as significant historic landmarks. Most of these homes were originally constructed in the early 19th Century. The addresses of registered homes are listed at the end of this chapter.

There is also a National Register Historic District in New Scotland. The Onesquethaw Valley Historic District was named for the Onesquethaw Creek Valley in the south eastern corner of Town. Lying mostly within New Scotland, but with small portions overlapping into Coeymans and Bethlehem, the District is very large, covering 3,400 acres.

The District encompasses part of Route 32, Onesquethaw Creek Road and Route 301. Approximately 25 homes, farm buildings and accessory structures are contained within its area; but mostly it consists of open lands which are farmed or simply vacant.

1. Onesquethaw Creek Valley District

As a National Register District, the Onesquethaw Creek Valley area is provided limited protection under the National Environmental Policy Act. The mandatory protection measures imposed by the Act apply only to publicly initiated actions. The Act stipulates that public funds will not be used to negatively effect historic resources. It requires that publicly sponsored rehabilitation or demolition projects be reviewed by the State government for impacts prior to proceeding.[7]

No reviews, beyond those performed for a building permit, are required for projects within a National Register Historic District provided the project is not initiated or financed by a public body. Private owners have the right to manipulate or demolish their property at will without review by the State, or comment by any other body.

The federal government encourages private historic preservation activities by offering a private sponsor the right to claim an Investment Tax Credit for voluntarily carrying out an historically sensitive restoration project at a National Register site. In its early years, this historic tax credit program facilitated many private restoration projects,

[7]Accordingly, publicly initiated actions impacting an historic structure or district must be reviewed by the New York State Historic Preservation Office. If land or a structure within the District becomes the site of a construction or rehabilitation project which is initiated, or financed (at all or in part) by a public body, the New York State Historic Preservation Office must review the project for its effect on historic character. The Office has been empowered by the federal government to effect the project and its public funding.

particularly in urban areas. Capital Hill in downtown Albany and Canal Square in Schenectady are two examples of local areas impacted by the federal Tax Credit Program. However, of late, changes in the size and availability of the credit resulting from the 1986 Federal Tax Act have diminished its effectiveness. Nevertheless, the Investment Tax Credit remains an incentive available to owners within the Onesquethaw Creek Valley District to invest in, and thereby maintain, their property.

2. Municipal Preservation Activities

The Town of New Scotland can do a lot to preserve the Onesquethaw Creek Valley District or any other site it deems historically or culturally significant. The municipal government can loosely protect the character of certain areas and the traditional development pattern using zoning and subdivision ordinances. In particular, regulations preserving open space and controlling land use, building heights and setback requirements are recommended to protect the traditional pattern and rhythm of development.

Specific areas, such as the Onesquethaw Creek Valley District, or any one of the Town's hamlets, can be protected through the adoption of a local Historic District ordinance. The document can set tailored design and material standards to prevent alterations destructive to a given areas unique character.

An historic district ordinance can be enacted by the Town, but it is not recommended in absence of resident input. An ordinance placing restrictions on private property renovations may cause animosity and, if it is without a State or National Designation, be charged with imposing undue hardship on area residents.

It is recommended that the Town take steps to initiate historic preservation methods. The Town could begin the process by informally or formally designating a lead organization for researching, prioritizing and consensus building on historic preservation issues. Perhaps the lead role could be taken by the Town Planning Board or local historic association. But ideally, the lead body would be a new, temporary, organization formed for the narrow purpose of considering and advising on municipal preservation activities. Representation from the Planning Board, the Town Board and the local historic association would be ideal for such a group.

The Town, or its designated historic committee, should investigate the land use mechanisms currently protecting the Onesquethaw Creek Valley District and any other areas it deems significant. Once certain sites are designated for municipal protective action, and the strength of that action defined, the site plan, zoning and subdivision provisions can be amended to protect historic resources. On top of which, sites in a specific area might be regulated under a tailored historic district ordinance.

On the following page is a list of designated historic properties in the Town of New Scotland. The list has been compiled from historic registry forms provided by the New Scotland Historic Society. The list may not contain all 'registered' historic properties and it certainly does not contain all properties eligible for registration, but it does provide a brief inventory of sites already listed with the State and federal government. This list might serve as a starting point for future registration activities.

HISTORIC SITES:

Address	Use	Designation
Onesquethaw Valley District (Parts of New Scotland, Bethlehem, Coeymans). Along Route 32, Onesquethaw Creek Road and Route 301.	3,400 acres containing 25 homes and uncounted farm buildings. •Route 32 (east to west): Old Joslyn House; C. Winne Farmhouse; LaGrange Farmhouse; Willow Brood; Paul Winne Farmhouse; Slingerlands Park House; Gregory House. •Onesquethaw Creek Road (east to west): Stanton House; Onesquethaw Valley Farm; Appel Dryden Farmhouse; Nisquethaw Farm; Douglas Aboretum. •Route 301 (north to south): Lenord Farmhouse; Bradt-Slingerland House; Manhattan Hook Farm.	National Register of Historic Places
Edgewood, Font Grove Road	Home	National Register of Historic Places
Bullock House, Bullock Road	Private Home	National Register of Historic Places
Crounse Homestead, Bullock Road	Private Home	National Register of Historic Places
Glynhafan Farm, Bullock Road	Farm	National Register of Historic Places
Round Meadow Farm, Bullock Road	Farm	National Register of Historic Places
Fuller Reid House, Bullock Road	Private Home	National Register of Historic Places
Nine Mile House/Snyder Hotel, Beloved Farm, Delaware Turnpike	Private Home	National Register of Historic Places

Section VI. Transportation and Water and Sewer Facilities

The following section describes the transportation network and water and sewer facilities in the Town of New Scotland. As the primary infrastructure systems that might be provided in a rural community, these services require careful planning to ensure that future needs are met without excess spending or over-development.

Because of the limited public water and sewer facilities provided in New Scotland, the transportation system is the concentration of this section. It will be discussed first, followed by a review of Town water and sewer services.

A. Existing Transportation Network

The transportation network in New Scotland consists almost entirely of roads. There are no accessible public aviation, train or shipping facilities. Although there is one train line running across New Scotland from Bethlehem to Guilderland, and another line owned by CONRAIL, which runs from the Bethlehem Industrial Park north through New Scotland to Guilderland, neither can be accessed in New Scotland for public transportation. There is one siding used by a commercial business.

The Town of New Scotland is served by three separate bus routes operated by the Capital District Transportation Authority. There is a direct line running four times daily between downtown Albany and Voorheesville. There is also a line running twice daily between Westerlo and Albany which stops in Clarksville and on Cherry Avenue near Unionville. Once daily, a line stops in New Salem and Voorheesville enroute between Albany and Rensselaerville. (There is also a once daily route running north of the Town between Berne and Albany, accessible to New Scotland residents). Presently, there are no plans to expand existing routes or times of service. Should the Town population grow substantially, a reevaluation of bus service would be likely.

All other public and private transportation consists of State, County and locally owned roads. State roads are maintained by the New York State Department of Transportation, County roads are serviced by the Albany County Department of Public Works, and local roads are the responsibility of the Town Department of Public Works (if municipally owned) or, under limited circumstances, private group(s). Table 6-1 shows the ownership of the public roads in New Scotland.

Table 6-1

1990 TOWN OF NEW SCOTLAND PUBLIC ROADS

OWNER	MILEAGE	PERCENT OF TOTAL
New York State	46	29%
Albany County	35	22%
Town of New Scotland	78	49%
Total	159	100%

1. Highway Breakdown

There are approximately 160 miles of public roads in New Scotland. These consist of State highways (Route #32, 85, 85A, 155, 156, 157, 443/85 overlap and 443) and County roads (Route #109, 201, 203, 208, 301, 303, 306, 307, 308, 311 and 312). The remainder are Town roads.

The highway network in New Scotland forms a loose grid pattern. The State highways tend to run east/west and the county routes bisect them, running north/south. Town roads have no dominant orientation. These roads randomly connect to both State and County roads.

2. Road Hierarchy

There are five classifications applied to roadways in New York State: Interstate Highways, Arterial Highways, Primary Roads, Secondary Roads and Local Roads. There are currently no interstate or arterial highways in New Scotland.

Primary roads are the highest service level roads in New Scotland. They serve as major connectors between New Scotland and surrounding towns. State Routes #85, 443, 155, 156 and 157 connect the "Hill Towns" in Albany County with the Capital District. These primary roads are designed to provide faster moving, free-flowing traffic, therefore, driveway accesses and roadside parking must be controlled along these roads.

Secondary roads collect traffic from the local roadway system and distribute it to primary roads. State Route 32 and 85A, all county roads and Krumkill Road act as secondary roads.

Secondary roads typically are inter-regional and provide a high degree of mobility between activity centers. As these roads are designed to promote free traffic flow, parking should be controlled. Secondary roads should have limited driveway access and typically should not flow through major residential areas. Commercial and industrial centers are usually located along these roads, however, they tend to hinder traffic mobility. Therefore, strip commercial and industrial developments should be carefully regulated along secondary roads and accessed through internal collector roads in an effort to limit driveway access where practical.

Local roads generally function as collectors for traffic from individual properties and distribute it to secondary or primary roadways. Town roads and some private subdivision roads make up the local roadway system. These roads connect farms, homes, stores and industry to the larger roadway system. Some private subdivision roads connect interior properties to public right-of-ways.

Local roads typically provide frontage for residential lots and carry traffic having destinations or origins on the street itself. These roads carry the least amount of traffic at the lowest speeds and are ideally best suited for driveway access and on-street parking.

3. Existing Highway Features

The existing capacity of a roadway determines to a great extent what additional levels of traffic may be added prior to the road becoming too congested. Capacity, therefore, may be used identify roads within the Town that will require improvement to handle future traffic loads.

Analysis of the geometry of a road helps to identify the road's capacity. Additionally, it provides a bases to determine if existing roads fall within acceptable design parameters established by the American Association of State Highways and Transportation Officials (AASHTO). Those roads that fall greatly below AASHTO standards should be considered for some form of upgrading in any Town roadway capital improvements program.

The condition of a road generally refers to pavement characteristics. Deteriorated pavements require improvement and must be considered when budgeting municipal funds. Extremely deteriorated pavement and poor drainage conditions should be alleviated as they also tend to reduce the capacity of a road.

As a guide, therefore, the future capacity of a road should be reviewed first. If the capacity is inadequate, improvements will typically take into consideration any problems with road geometry and surface condition. If a roads capacity is determined to be adequate, an evaluation of the roads geometry and surface condition will dictate to what degree future reconstruction, rehabilitation or improvement are necessary.

The features of the roadway system that most significantly effect the capacity, geometry, and condition of each roadway are: a.) Right-of-Way; b.) Pavement and Shoulder Width; c.) Roadway Surface Conditions; d.) Vertical Alignment; e.) Horizontal Alignment; and f) Access Control.

a. Right-of-Way

The right-of-way width is measured as the distance between facing property lines along a roadway. Pavement, shoulders, ditches, drainage facilities and roadway embankment or excavation slopes are included within the right-of-way as are utility poles supporting overhead electrical, telephone and cable television lines.[8]

[8]It is now recognized that utility poles are a roadside hazard and as the State, County and Town reconstruct their roads, the utility companies are either placing their lines underground or moving their poles to the Right-of-Way line.

Public utilities such as water mains and sanitary sewers are usually located under the pavement surface. In new developments all public and private utilities should be located underground outside the roadway shoulder except for crossings.

A right-of-way of 50 feet is considered the minimum desirable width by the AASHTO for all highways. This width will encompass two travel lanes, two shoulders and either a drainage ditch system or the beginning of the embankment and the excavation slopes. Right-of-Ways widths of 70 to 80 feet are necessary for four lane roadways. The extra width is used to accommodate turning lanes, medians, utilities and drainage facilities.

The State and County, in New Scotland, generally claim right-of-ways of 50 feet. Some of these roads may have additional "easements" for special uses such as drainage structures, bridges and embankment or excavation slopes. Because of the narrower travel lanes and shoulders on Town roads and the maintenance limits on slopes and ditches, some existing Town roads may have less than 50 feet of right-of-way. Depending on present and future traffic volumes, right-of-ways may need to be enlarged and/or upgraded for primary roads (State Routes 85, 443 and 155) and some secondary roads (State Routes 32 and 85A and County Route 306).

Widening highways has been made easier by the New York State Highway Law. Roadways designated as 'highway' may be enlarged by the Town to 3 rods (about 50 feet) as a matter of right according to the Law. Two road types meet the definition of 'highway'. Some originate as local roads but meet the 'highway' definition based on continual public use for 20 years. Others have been legislated and labelled 'highway' by an act of the Town Board.

b. Pavement and Shoulder Widths

State highways have travel lane widths of 10 to 12 feet with shoulder widths of 4 to 6 feet. The average lane is 11 feet wide and the average shoulder 5 feet. All State highways in New Scotland currently have two travel lanes.

County highways have travel lane widths of 10 to 11 feet with shoulder widths of 2 to 6 feet. Like the State highways the average lane width is 11 feet but the average shoulder width is only 3 feet. All County highways in Town currently have two travel lanes.

Town roads have travel lane widths of 7 to 11 feet with an average width of 10 feet. Shoulders range from 0 to 4 feet, however, most Town roads have no defined shoulders. All Town roads have two travel lanes, however, in some cases the pavement is so narrow that passing is difficult. Table 6-2 indicates existing Town roads with substandard geometry. The word "geometry" in this case refers to the alignment and pavement widths of the roads in the Town.

Table 6-2
TOWN ROADS WITH SUBSTANDARD GEOMETRY

	Roadway Name	Length (miles)	Width(feet) Pavement	Shoulder
*	Copeland Hill Road	1.54	8	0
	Plank Road	0.21	14	2
	Dunbar Hollow Road	1.83	12	2
*	Scutt Road	0.73	10	3
*	Duck Hill Road	0.78	10	2
*	Upper Derbyshire Road	0.68	10	2
*	Plank Road Loop	0.22	10	2
*	Mill Street	0.08	10	3
	Railroad Avenue	0.06	12	3
	Brownrigg Road	0.41	14	3
	Route 85 Loops	0.14	12	2
	Route 443 Loop	0.17	14	2
*	Leonard Lane	0.53	11	2
*	Dryden Lane	0.27	8	1
	Miller Road	0.34	14	4
	Towne Road	0.23	14	4
	Martin Road Extension	0.30	12	2
	Power House Road	0.68	14	2
	Winnie Lane	0.44	14	2
	Hartley Drive	0.33	14	2
*	Mill Road	0.03	10	3
*	Willow Street	0.10	10	2
	Price Lane	0.56	12	2
	Countryman Road	1.32	14	4
	Fullers Lane	0.09	14	2
	Mason Lane	0.29	14	2
*	Old State Road Spurs	0.17	10	2

Source: State of New York Department of Transportation Local Highway System Inventory, Region 1, County 1, Albany, New Scotland, pgs. 1827-1833, Run 8/3/88

* These streets should be considered for immediate modification. Improvements might include widening pavement widths to two eight foot lanes with two foot shoulders or reclassification as a one-way road. Where widening is not cost effective and the road cannot be made one-way, warning signs should be placed noting any sub-standard pavement conditions.

All other roads on this list should be evaluated to determine priorities for improvements and should be brought up to minimum pavement widths of eight foot pavements and two foot shoulders where projected traffic volumes mandate these improvements. All roads with sub-standard conditions should be considered for reduced speed zones in the range of 20 to 30 miles per hour and be signed for sub-standard conditions until improvements can be made.

At the Town's discretion, costs for moving stone walls, fences and street tree plantings can be included in cost estimates for roadway improvement and repair, when budgeting road improvements.

c. Roadway Surface Conditions

State highways are constructed of bituminous pavement, a few with asphalt overlaying cement concrete pavement. The pavement depth is between 8 and 10 inches. Most shoulders are constructed of asphalt stabilized gravel though some have a thin overlay of bituminous pavement. The pavement surfaces are in fair to very good condition. The shoulder surfaces are in poor to fair condition. Although there have been few resurfacings in the past 5 to 10 years, roadway pavements are generally maintained and their surfaces are smooth. Some surfaces are broken over joints in the old cement concrete pavement, and some edges of pavement are cracking where poor shoulder conditions exist.

County highways are constructed of bituminous pavement, some are overlaid over surface treated crushed stone. The pavement depth is between 3 and 6 inches. Some shoulders are constructed with asphalt stabilized gravel while the remaining shoulders are graded and surfaced with compacted gravel. The pavement surfaces are in fair to good condition. The roadway pavement is maintained with some rutting and surface cracking in random areas. Some edges of pavement are broken and worn away where gravel shoulders have deteriorated. The roadway surfaces are generally smooth except at the random deteriorated areas. There has been no significant reconstruction work on County highways in the Town of New Scotland in the past 10 years.

Town roads are paved with bituminous pavement or asphalt stabilized crushed stone. The pavement depth is between 1 1/2 and 4 inches. Road shoulders are constructed of graded and compacted gravel. Many Town roads have a shale subgrade, covered by 6 to 12 inches of gravel beneath the pavement surface. Town pavement surfaces are in fair to good condition. The roadways are maintained and repaired as conditions warrant. The asphalt stabilized crushed stone surfaces rut and crack more easily than the bituminous pavement surfaces. An example of this condition may be seen on Upper Font Grove Road. The Town of New Scotland participates annually in the New York State Consolidated Highway Improvement Program. This program partly funds the resurfacing and maintaining of Town Highway pavements. Town roads with deteriorating surface conditions are listed in Table 6-3 under "condition".

d. Vertical Alignment

All State, County and Town highways east of Clarksville and New Salem exist on a rolling topography. West of Clarksville and New Salem the highway grades rise sharply to the top of the Helderberg plateau where again the highways run on a rolling topography. Most State highways have been graded within their right-of-way to remove all severe hills and pavement sags. The State highway maximum grades are generally between 4% and 6% (except on Route 85 and 443 along the Helderberg slopes where the maximum grades are approximately 12%).

Most County highways have had some grading to remove a number of severe hills and valleys. The County highway maximum grades are generally between 6% and 8% except on County Routes 109, 311 and 312 where the grades are approximately 12%.

Most Town roads were constructed along existing topography with little grading, excavation or embankment except at stream crossings. The maximum grades of Town roads are generally between 8% and 10%, although there are a few roads with grades greater than 12%. The grades greater than 12% are difficult to climb and are hazardous in winter months particularly where road surface is of low quality. They are also difficult to plow and maintain, increasing costs for the Town.

e. Horizontal Alignment

State, County and Town roadways are generally straighter on the east side of Town and become more winding as they run west. The sharpest horizontal curves occur on or near the Helderberg slope. As in the case of the vertical grades, earthwork has been performed within the State right-of-way to reduce the negative effects of native topography on roadway alignment.

County highways tend to have sharper horizontal curves than State highways. Some grading work has been done to improve roadway alignment since the last master plan was completed in 1960. However, due to the route some of the County highways traverse and the high cost of earthwork, County roads tend to wind more than State highways.

Town roads have more severe horizontal alignments than State or County highways. Town roadways are generally positioned on more severe topography, where it was easier and less costly to go around a topographic feature than to grade through it. A number of sharp turns occur on interior roads. Reducing sharp turns on existing low volume roads is inefficient and costly.

B. Traffic Volumes

Determination of traffic volumes is necessary to evaluate the level of service a road possesses. Generally, the more traffic using a road at any one time, the more delays will result for the traveler. The effects of these delays are described in six categories called "Level of Service". Once the level of service for a road has been determined, projections of future levels of service may also be evaluated. Evaluations of this nature provide the foundation for determining what future improvements will be necessary to maintain adequate levels of service for the roadway network of the Town. Existing traffic volumes are identified on figure 6-1. Projected traffic volumes for the year 2000 are identified on Figure 6-2.

1. Traffic Patterns

In order to evaluate the level of service of a road, it is important to understand the existing and potential traffic patterns found on the Town's roadway network. There are five general types of traffic that describe how the roadway network in New Scotland is utilized: through traffic; commuter traffic; recreational traffic; retail-commercial traffic; and local traffic.

- *Through traffic* is made up of vehicles with no origin or destination within the Town of New Scotland. This traffic uses the State and County highways to travel to and from the "Hill Towns" of Berne, Knox, Westerlo and Rensselaerville to the Capital District metropolitan area. The heaviest use of the roadway network is from this type of traffic, particularly on weekdays.

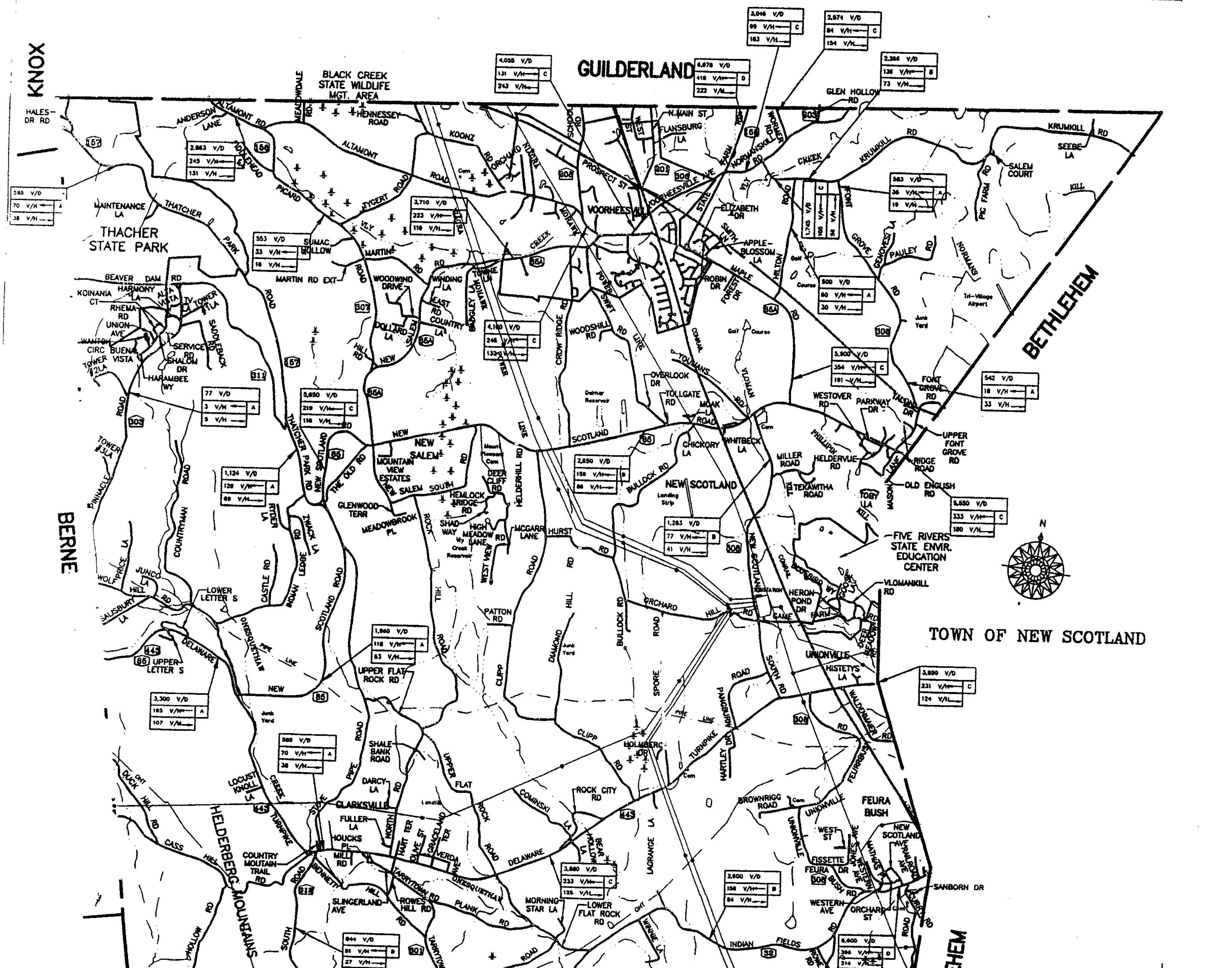
- *Commuter traffic* consists of the vehicles that originate from residential areas in New Scotland. Traffic of this nature uses the roadway network to travel to and from work. Depending on their origin and destination, commuters will use part or all of the roadway network within the Town. Commuters are the second heaviest users of the roadway network, particularly on weekdays. A majority of the commuter traffic has its origins in the eastern portion of the Town.

- *Recreational traffic* is created by visitors to the many recreational facilities

within New Scotland. There is a State park (John Boyd Thatcher State Park) and State Environmental Education Center (Five Rivers) in the Town. Suitable cross country skiing and fishing areas, a Town Park, a private golf course and other private recreational facilities such as Picard's Grove bring additional recreators. Recreational traffic typically occurs on weekends year round and is at its peak during the summer months. Most visitors originate from the Capital District.

- *Retail-Commercial traffic,* generated by business facilities, is not a significant traffic type in the Town at present. It is limited to vehicles traveling through or from New Scotland to get to shopping centers in Albany, Guilderland and Bethlehem. There are some minor commercial sites in Voorheesville and at the west intersection of Route 85 and 85A. This traffic occurs mostly during daylight hours, seven days a week.

- *Local traffic* is generated by business or personal trips between Town residential areas, including the Town hamlets, the Village of Voorheesville and scattered subdivision developments. This traffic generally uses Town roads and/or County highways at various hours of the day and night, seven days a week.


TOWN OF NEW SCOTLAND
GUILDERLAND
KNOX
BERNE
BETHLEHEM
BLACK CREEK STATE WILDLIFE MGT. AREA
THACHER STATE PARK
HELDERBERG MOUNTAINS
FIVE RIVERS STATE ENVIR. EDUCATION CENTER
VOORHEESVILLE
NEW SALEM
NEW SCOTLAND
CLARKSVILLE
FEURA BUSH
UNIONVILLE
Delmar Reservoir
Tri-Village Airport
Vly Creek Reservoir
Landing Strip
Golf Course
Junk Yard
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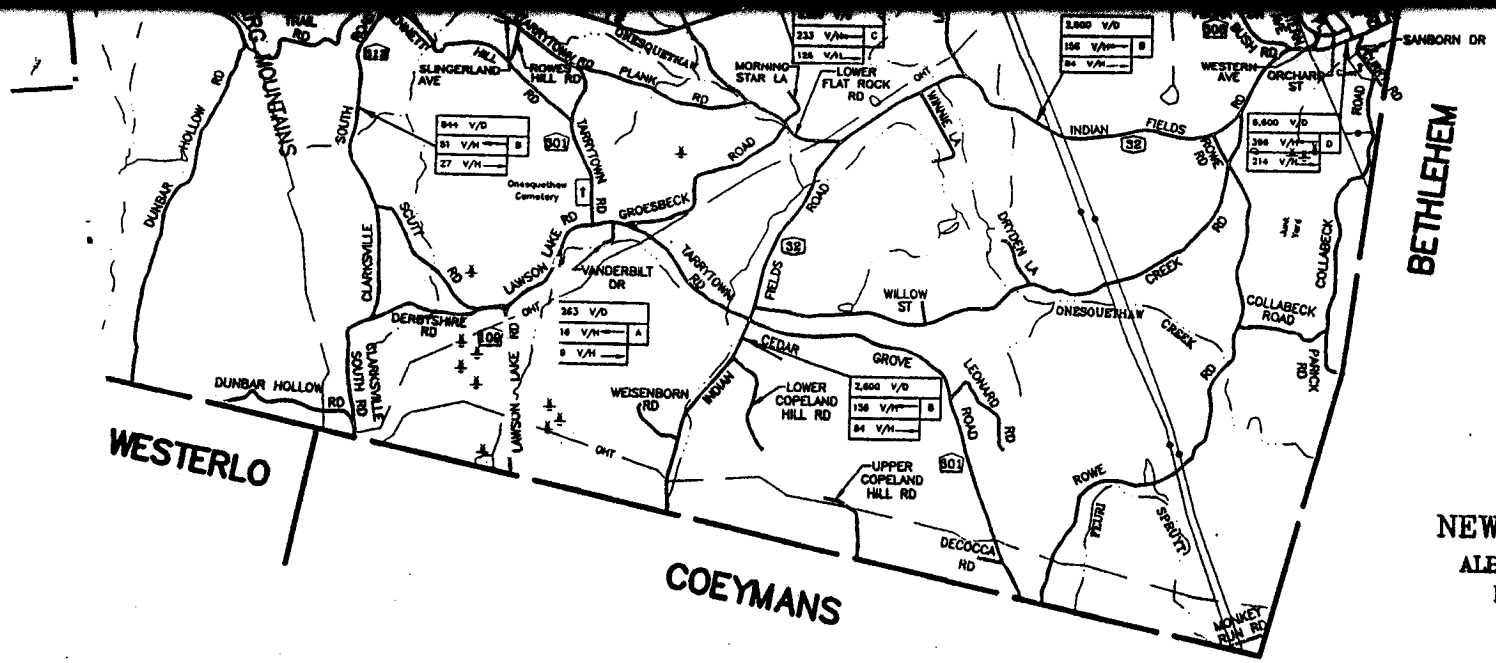

TOWN OF
NEW SCOTLAND
ALBANY COUNTY
NEW YORK

LEGEND

AADT
PM PEAK — LOS
PM PEAK

AWAY FROM ALBANY
TO ALBANY
LOS – LEVEL OF SERVICE
AADT – ANNUAL AVERAGE DAILY TRAFFIC

BAR SCALE
4800 0 2400 4800 9600
1 inch = 4800ft.

Figure 6-1

1990 TRAFFIC VOLUMES MAP

SOURCE REFERENCE:

1. NEW YORK STATE DEPARTMENT OF TRANSPORTATION, 1988 traffic volume report.
2. albany county department of public works, 1989 traffic count report.

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2. Traffic Volumes by Roadway Type

a. State Highways

The State highway network accommodates (at one point or another) almost all of the through traffic, commuter traffic, recreational traffic and retail-commercial traffic in the Town. This is especially true on the east ends of Routes 85, 85A, 443, 32, 156, 157 and the south end of Route 155. Traffic on these highways range from 7,300 trips-per-day on Route 32 east of County Route 308 to 7,840 trips-per-day on Route 155.

On the west ends of these highways, traffic volumes vary from approximately 585 trips-per-day on Route 157 to 3,860 trips-per-day on Route 32.

b. County Highways

The County highway network handles portions of commuter traffic, recreational traffic, retail-commercial traffic and local traffic. Very little through traffic is handled by these roads as most through traffic runs east and west. County highways tend to run north and south. Traffic volumes on County highways are low on the west side of the Town and high on the east side. On the west side, traffic varies from approximately 250 trips-per-day on Lawson Lake Road to 800 trips-per-day on Clarksville South Road. On the east side, traffic varies from 510 trips-per-day on Font Grove Road to 2,940 trips-per-day on Normans Kill Road west of Route 155.

c. Town Roads

The Town highway network handles a small portion of the commuter, recreational and retail traffic, plus most local traffic. Though no recent traffic count data is available for Town roads except for Krumkill, Wormer and Hilton Roads, it is estimated that the traffic volumes are between 50 and 500 trips-per-day. Like the State and County highway network, traffic volumes on Town roads increase from west to east, therefore, the higher volume Town roads will be on the east side of Town. Existing traffic volume on Hilton Road is around 500 trips per day, Krumkill Road, 2,266 trips per day, and Wormer Road, 2,574 trips per day.

3. Level of Service Acceptability/Roadway Capacity

Level of service indicates how satisfied, unconcerned or dissatisfied the average roadway traveler will "feel" about traveling along a certain portion of highway or through a certain intersection. Service at "A" and "B" levels allows motorists freedom to maneuver about as they choose, therefore, they feel happy or content with traffic conditions. Level of Service "C" and "D" will alter the motorists feelings from unconcerned to concerned. Level of Service "E" may cause frustration to the motorist. "Failed" traffic conditions will anger most motorists.

For suburban two-lane highways, "D" conditions at peak traffic hours are considered acceptable by the New York State Department of Transportation. As a roadway enters Level of Service "E", vehicles traveling along the road experience very long delays. The roadway travel speed goes below one-half the speed limit, there is no opportunity to pass slower moving vehicles and little opportunity to turn left off the roadway.

"Failed" conditions occur when lines of vehicles are traveling at 5 to 10 miles-per-hour for very long distances. The motorists perception of the difference between "E" and "Failed" conditions is very slight. Changes are measured, at this point, on "reserve capacity" rather than strictly on the Level of Service. Reserve capacity is the difference between the theoretical maximum number of vehicles that a roadway can handle before failure, and the actual number of vehicles on the road (adjusted by dividing by the roads peak hour factor).

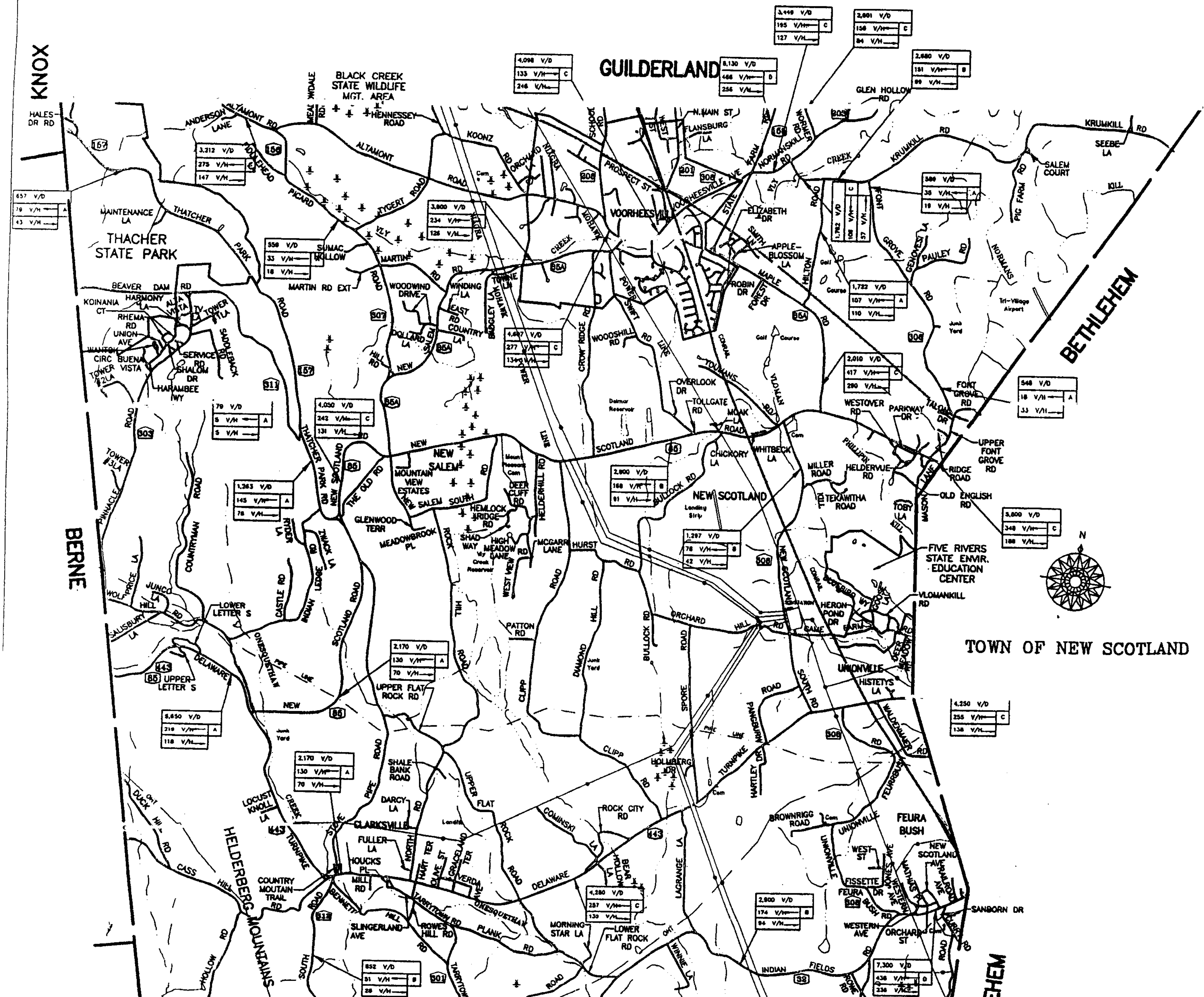
In New Scotland, State Routes 155 and 32 are experiencing Level of Service "D" conditions. By 2000, Route 85 east of Route 85A will be approaching Level of Service "D".(See Figure 6-2 2000. Traffic Volumes).

The projected 2000 reserve capacity of the Route 155, Route 32 and 85 indicate that these roadways will be approaching a "failed" Level of Service before any other roads in the Town.[9] Therefore, without construction of any additional roadways or bypass routes, these State roads may require upgrading in the 1990's.

Route 32 (west of Feura Bush Road), Route 85A, Route 156, Route 85 (west of Route 85A) and the Route 85/443 overlap (east of Berne) function under Level of Service "C" conditions. In lieu of construction of any new roads, these highways will be the roads most severely impacted by anticipated increases in population in the future. The remaining State, County and Town highways function at better than Level of Service "C" conditions.

Poor levels of service can be alleviated by upgrading existing roads or constructing new roads. Existing roads may be improved by widening travel lanes and shoulders, adding separate turning lanes or improving signalization and striping. New roads can be constructed to take excess vehicles off of existing roads but should only be considered where absolutely necessary unless they are parts of proposed subdivisions and large site plan review projects.

[9]The reserve capacity of the Route 155 will be approximately 150 vehicles-per-hour, the Route 85A reserve capacity will be approximately 650 vehicles-per-hour and the Route 85 reserve capacity will be as low as 50 vehicles-per-hour.



TOWN OF NEW SCOTLAND
GUILDERLAND
BETHLEHEM
BERNE
KNOX
VOORHEESVILLE
NEW SCOTLAND
NEW SALEM
UNIONVILLE
FEURA BUSH
CLARKSVILLE
THACHER STATE PARK
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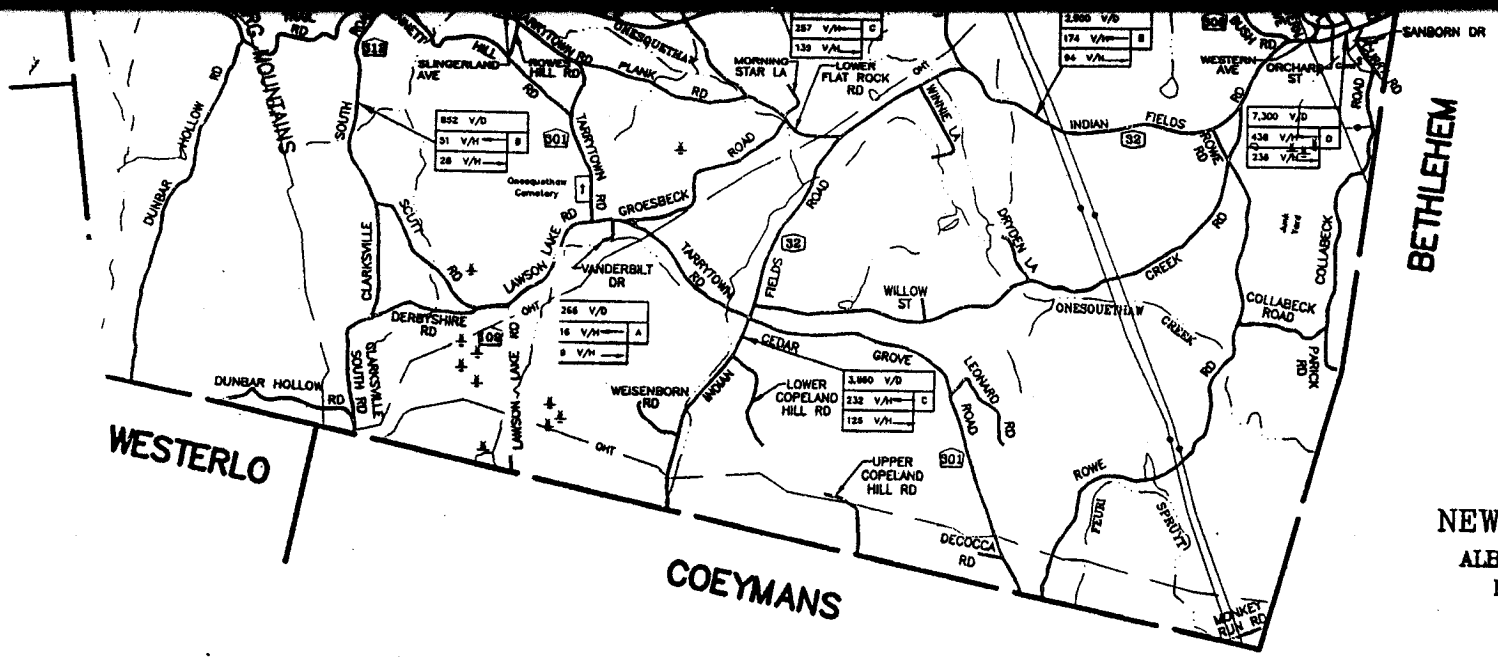
HELDERBERG MOUNTAINS



TOWN OF
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ALBANY COUNTY
NEW YORK

LEGEND

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PM PEAK — LOS
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AWAY FROM ALBANY
TO ALBANY
LOS – LEVEL OF SERVICE
AADT – ANNUAL AVERAGE DAILY TRAFFIC

BAR SCALE
4800 0 2400 4800 9600
1 inch = 4800ft.

Figure 6-2

2000 TRAFFIC VOLUMES MAP

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SOURCE REFERENCE:

1. NEW YORK STATE DEPARTMENT OF TRANSPORTATION, 1988 traffic volume report.
2. albany county department of public works, 1989 traffic count report.

Table 6-3 identifies the existing State, County and Town roads that should be considered for upgrading over the next ten to twenty years. These roads are graphically depicted on Figure 6-3 Proposed Traffic Plan. The word "capacity" in this table refers to a road's ability to accommodate projected future traffic volumes. As such, a road with capacity problems should be considered for lane widenings, intersection improvements, etc.. "Condition" refers to surface condition. Surface conditions include pavement surfacing and thickness, potholes, rutting, etc.. Roads in need of reconditioning typically have one or more problems of these problems. (source: see reference at the end of Table 6-3).

Table 6-3
ROADWAY SYSTEMS UPGRADING 1990-2000

Roadway Name	Reason
Town Roads	
Krumkill Road	Capacity
Hilton Road	Capacity
Wormer Road	Capacity
Upper Font Grove Road	Capacity
Copeland Hill Road	Condition
Plank Road	Condition
Dunbar Hollow Road	Condition
Scutt Road	Condition
Duck Hill Road	Condition
Upper Derbyshire Road	Condition
Plank Road Loop	Condition
Mill Street	Condition
Railroad Avenue	Condition
Brownrigg Road	Condition
Route 85 Loops	Condition
Leonard Lane	Condition
Dryden Lane	Condition
Miller Road	Condition
Towne Lane	Condition
Martin Road Extension	Condition
Fullers Lane	Condition
Old State Road Spurs	Condition
Verda Street	Condition
West Street	Condition
Youmans Road	Condition
Pauley Lane	Condition
Rock City Road	Condition
Pangburn Road	Condition
Patton Road	Condition
Helderberg Castle Road	Condition
Upper Letter Street	Condition
Lower Letter Street	Condition
Price Lane	Condition
Weisenborn Road	Condition

Table 6-3 (cont.)
ROADWAY SYSTEMS UPGRADING 1990-2000

	County Roads	
	Route 306	Capacity
	Route 201	Capacity
	Route 308 North	Capacity
	Route 109	Condition
	Route 203	Condition
	Route 208	Condition
	Route 303	Condition
	Route 308 South	Condition
	Route 311	Condition
	Route 312	Condition
	State Roads	
	Route 155	Capacity
	Route 85A East	Capacity
	Route 85 East	Capacity
	Route 32 East	Capacity
	Route 443 East	Capacity
*	Route 85A West	Condition
*	Route 85 West	Condition
*	Route 32 West	Condition
*	Route 443 West	Condition
*	Route 85/443	Condition
*	Route 156	Condition
*	Route 157	Condition

*Part of the State Rehabilitation Program
Source: State of New York Department of Transportation Local Highway System Inventory, Region 1, County 1, Albany, New Scotland, pgs. 1827-1833, Run 8/3/88

Many of the Town Roads listed here also appear in Table 6-2. A determination must be made which compares the condition of a road with its overall geometry, to determine the cost effectiveness of upgrading narrow roads. Particular attention should be paid to roads which cannot accommodate two-way traffic. These include Copeland Hill Road, Dryden Lane, Duck Hill Road, Leonard Lane, Mill Road, Mill Street, Old State Road Spurs, Plank Road Loop, Scutt Road and Upper Derbyshire Road.

Improvements to Town Roads must also be prioritized based upon existing and projected traffic volumes to determine the schedule for work and the degree of work required. Based on the information supplied in Tables 6-2 and 6-3 the Town should consider making the following improvements. The roads are listed in order of priority. Lower priority roads are all similar in character and improvements should be weighed against the economic benefits associated with the improvement, and the number of Town residents impacted.

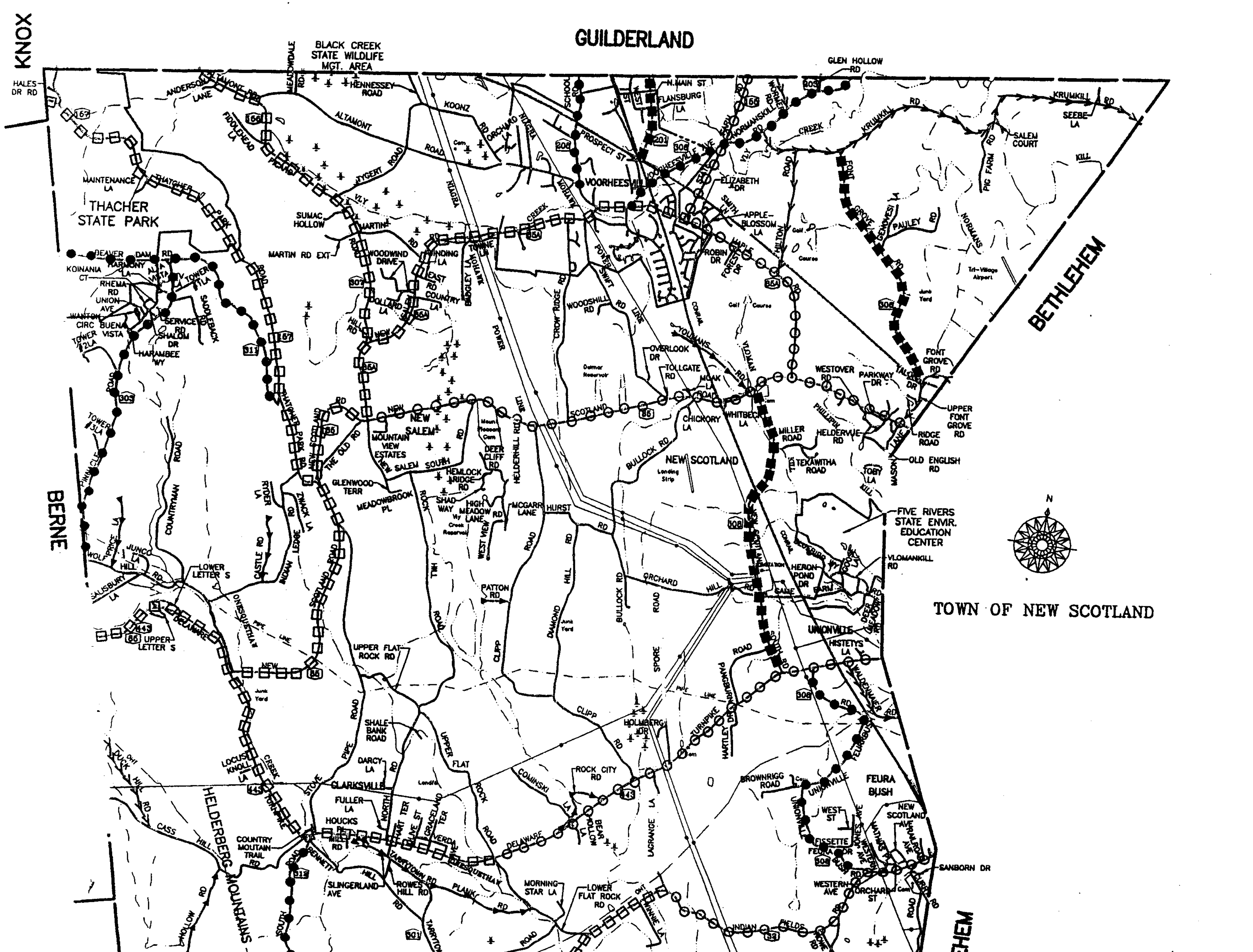
A. Improve Roadway Capacity
   1. Krum Kill Road
   2. Hilton Road
   3. Wormer Road
   4. Upper Font Grove Road

B. Improve Road Geometry and Condition

Primary Concern
1. Copeland Hill Road
2. Plank Road
3. Dunbar Hollow Road
4. Scutt Road
5. Duck Hill Road
6. Upper Derbyshire Road
7. Plank Road Loop
8. Mill Street

Secondary Concern
1. Railroad Avenue
2. Brownrigg Road
3. Route 85 Loops
4. Route 443 Loops
5. Leonard Lane
6. Dryden Lane
7. Miller Road
8. Towne Lane
9. Martin Road Extension
10. Power House Road
11. Winnie Lane
12. Hartley Drive
13. Mill Road
14. Willow Street
15. Price Lane
16. Countryman Lane
17. Fullers lane
18. Mason Lane
19. Old State Road Spurs

C. Improve Road Condition
1. Verda Street
2. West Street
3. Youmans Road
4. Pauley Lane
5. Rock City Road
6. Patton Road
7. Pangburn Road
8. Helderburg Castle Road
9. Upper & Lower Letter Street
10. Weisenborn Road


TOWN OF NEW SCOTLAND
GUILDERLAND
KNOX
BERNE
BETHLEHEM
BLACK CREEK STATE WILDLIFE MGT. AREA
THACHER STATE PARK
VOORHEESVILLE
NEW SALEM
NEW SCOTLAND
UNIONVILLE
CLARKSVILLE
FEURA BUSH
HELDERBERG MOUNTAINS
FIVE RIVERS STATE ENVIR. EDUCATION CENTER
TOWN OF NEW SCOTLAND

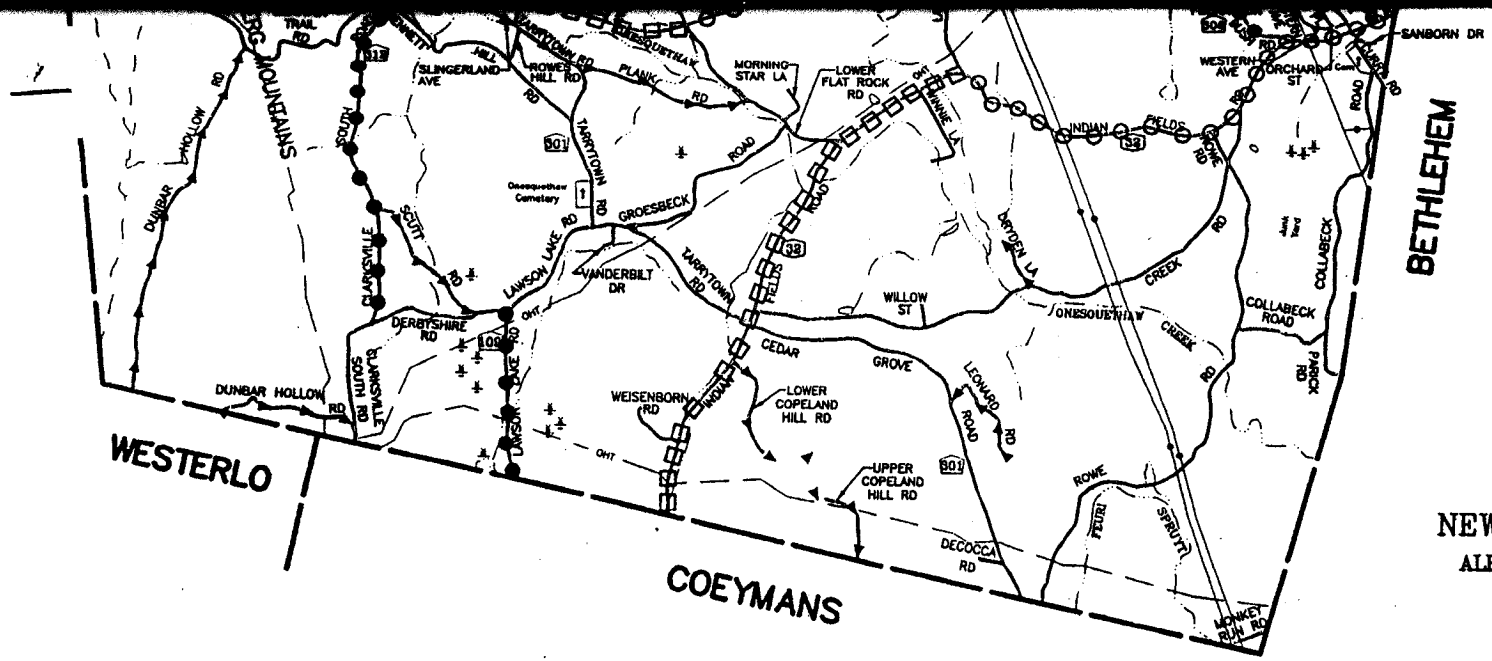


Figure 6-3

PROPOSED TRAFFIC PLAN MAP

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C. Future Roadway Development

Over the last thirty years there has been a major shift in the population of the Capital District from urban to rural areas, thus creating a predominantly suburban society in the towns and counties surrounding the cities of Albany, Schenectady, Troy and Saratoga. Of the towns adjacent to these cities, Colonie, Clifton Park, Guilderland, and Bethlehem have grown the most. As the amount of developable land in these towns is decreased, or become subject to price inflation, land in other towns becomes more attractive for developers and consumers. Such is the current case in New Scotland.

For the Town of New Scotland three factors will continue to be the key to population growth: suburbanization (location in the Capital District); economics (land values); and water supply. The Town of New Scotland is located west and south of the Towns of Bethlehem and Guilderland. Both of these Towns have experienced significant growth in the past 20 years. Presently, however, both Towns are running out of developable land and are experiencing strains on public services including water supply, sanitary sewers, schools and roadway systems. The resulting limitations on public facilities and ever-increasing land values have driven developers to look elsewhere when choosing a location for their projects.

The Town of New Scotland has been traditionally slow to develop due to a lack of adequate ground water supply and a lack of a feasible connection to a reliable water supply outside the Town. Now, however, there has been on-site water located in two separate areas of Town with capacity to support significant new housing or commercial development east of the Conrail railroad tracks. From information made available to the Town Planning Board, the new water supply could support a total of approximately 1,200 new housing units.

Twelve hundred (1,200) single-family detached dwelling units would add approximately 12,100 trips per day, 900 trips during the morning peak hour, and 1,210 trips during the evening peak hour to the existing roadway system. If this traffic were added to the four major eastbound access routes to the Capital District (State Routes 155 and 85, County Route 203 (Normans Kill Road) and Krumkill Road), most if not all these roads would fail to function before all 1,200 units were developed, if improvements were not made to the roadway system. Interior roads like State Route 85A (Maple Road), County Route 306 (Font Grove Road) and two Town roads, Hilton Road and Wormer Road, would also fail to function during peak hour traffic flows.

In order to mitigate this type of traffic growth and to accommodate additional growth if other water sources are found, three solutions (and/or a combination of these solutions) are possible:

1. upgrade all eight affected roadways. This should include widening travel lanes and shoulders and in some cases adding new travel lanes to existing roadways;

2. create new mainline or bypass routes through development areas that will handle 75% to 85% of the traffic anticipated from new development; or

3. undertake limited upgrading of the existing roadway network combined with a new roadway network, within new developments, that would disperse the generated traffic onto a number of routes in the Towns of New Scotland, Bethlehem and Guilderland.

D. Town Highway Plan

Future development potentials in the Town, existing roadway conditions and the Town of New Scotland's Town Board and Planning Board obligations to meet both existing and future Town residents' transportation needs, will require the ongoing evaluation, planning and improvement of the roadways within the Town. The following section identifies several key issues before the Town and some potential strategies for addressing these issues.

1. State Roads and Bypass Routes

Past studies by the Town of New Scotland, the Town of Bethlehem and the State Department of Transportation have suggested that two new State routes, known as the "Delmar Bypass" and the "Slingerlands Bypass" be constructed to help alleviate poor traffic conditions in eastern New Scotland and Bethlehem. These routes would reduce congestion on State Routes 85 and 443 and County Route 306. One private developer has proposed another new route through their land that would affect traffic on State Routes 85 and 85A, County Route 306 and Town Roads: Krumkill Road, Hilton Road and Upper Font Grove Road. Figure 6-3 identifies the general area of this proposed new route.

Some funding has been earmarked for improvement of Route 85 (Slingerlands Bypass) in the Town of Bethlehem, and reconstruction of Route 32 in New Scotland between Route 301 and Flatrock Road. Beyond this, funds have yet to be dedicated to finance these routes. Perhaps this is because service on existing roads has not deteriorated sufficiently. Regardless, given limited Federal and State funds, New Scotland, Bethlehem and Albany County will have to apply political pressure early and often to secure construction financing for these roads. Local opposition has been another factor; education of the consequences of not addressing these traffic issues should be encouraged.

Widening or adding travel lanes to State highways will come from the same funding source as would financing for the bypass routes. In the case of adding lanes to existing State roads, the Town can request that the commissioner of the Department of Transportation include the State Highways in New Scotland, in the next State comprehensive capital improvements plan. In addition, reports on traffic congestion, accidents or new development pertaining to these roads should be sent to the New York State Department of Transportation as a reminder that they warrant consideration for improvement.

2. Other County and Local Roads

If development in east Guilderland continues- including the expansion of Crossgates Mall- Normans Kill/Johnston Road (County Routes 203 and 306) may inherit primary road status and will require rehabilitation including bridge(s) improvement, road alignment and surfacing. County Route 308 (including New Scotland South, Feura Bush and Unionville Roads) might need to be reconstructed for the same reason.[10] Local roads will require maintenance and repair so that future service is not compromised. Residential subdivision requirements should ensure that new developments supply appropriate roadways with designs and capacities to accommodate the new development. In addition, permanent ownership and maintenance of these roadways should be established at the outset.

Upgrading County (and Town) roads has traditionally been accomplished with

[10]County roads are outside the jurisdiction of the Town. Any reports or information that would affect the County Highway system should be supplied to the Albany County Commissioner of Public Works.

local taxes. In search of an alternate source, the Town of Guilderland recently initiated an impact fee on developers to create a fund to finance new roads and bridges. Though a State Court invalidated the practice, the future of such "Impact Fees" or "Mitigation Fees" are unclear. Any use of an impact fee system would require in-depth study and a defensible set of regulations. Such an evaluation is beyond the scope of this plan, however, Albany County is considering conducting such an investigation. Albany County had been proposing a regional Generic Environmental Impact study for portions of the Towns of Bethlehem, Guilderland and New Scotland in 1990 but the project was never undertaken. The Town of New Scotland should be supportive of any such an endeavor as may arise in order to gain additional insight about the needs of this area.

3. Design Standards

a. New Road Standards

The Town should re-evaluate, set and enforce construction standards governing right-of-way width, roadway geometry and materials for new roads. These guidelines must address the issue of maintaining the Town's rural character, as well as help ensure that new roads can be safely turned over to the Town. Currently all new road right-of-ways must be a minimum of fifty (50) feet wide. Consideration should be given to requiring amenities such as street trees, screening and alignment during the subdivision review process.

b. Subdivision and Site Plan Review Requirements

Unlimited direct access from residential lots to primary and secondary highways will tend to increase accident hazards, and restrict traffic flow. Therefore, access to these highways should be limited and concentrated at defined intersections. Two basic techniques exist to limit access onto primary highways. The design of new developments should be encouraged to employ the techniques presented below.

1. Interior Orientation: Under this method extra deep lots are platted so that their rear yards back up to the primary and secondary roads. No direct access from lots to the highway is allowed. Homes front on a local residential streets which flow to primary and secondary roads. The extra lot depth allows space for a privately owned buffer strip.

2. Marginal Access Road: Under this arrangement, a marginal access road is constructed parallel to, and separated from, the primary highway by a planting strip. Residential and commercial properties face the marginal access street. An example of this strip technique is the Heldervale Phase One subdivision along Route 85 just west of the Town of Bethlehem line.

It is not always possible to develop lots with an interior orientation or a marginal access road because many small individual lots already front on the highway. To facilitate the potential future construction of marginal access roads and/or the widening of existing primary roads, all new structures fronting on at least primary roads should be set well back from present or proposed rights-of-way.

In order to meet financial limitations, it is also recommended that the Town focus on the upgrading and repair of its existing local roads rather than undertaking new road construction projects. All new developments should be required to supply their own internal circulation systems. Cost for such systems can be reduced by allowing for cluster developments located off existing Town roads.

As a precautionary measure all roads permitted to be constructed should be designed to Town highway standards. In this way, the Town may easily take over and maintain a subdivision road after construction. In addition, construction of short, dead end, stub streets without turn arounds should be prohibited, because they are hazardous, costly to maintain and have limited access for fire trucks.

c. Rehabilitation of Existing Roads

New Scotland, as with most rural and suburban towns in New York, has a number of rural town and county roads with pavement widths that are less than the American Association of State Highway and Transportation Officials (AASHTO) guidelines for pavement width requirements (see Table 6-2). The costs for upgrading all town roads to these guideline standards is beyond the Town's financial capabilities. Constructing and reconstructing roads to guidelines that are not affordable creates inconsistencies between the "high design" improved roads and the backlog of "non-standard" roads that have yet to be improved due to lack of funds. Conditions of this nature tend to violate driver expectations and may result in unsafe driving environments[11].

A thorough study should be conducted by the Town which prioritizes road rehabilitation and inventories structural deficiencies. Structural deficiencies include pavement condition, sign placement, guide rails, bridge conditions, drainage structure conditions and position of utility poles. This study should be used to budget and target municipal funds for road maintenance, rehabilitation and reconstruction. The use of the New York State Department of Transportation "Local Highway Systems Inventory" and the Local Road Classification Task Force "Guidelines for Rural Town and County Roads" manual should be considered as guides for this purpose.

After determining system needs, the Town can decide what work can be done by the their highway department and what work will need to be contracted. Presently, taxes and the New York State Consolidated Highway Improvement Program are the only sources available to finance road improvements. The State of New York may also have some limited funds for bridge work, new signs and guide rails. The use of guide rails, warning signs, regulatory signs and good roadway maintenance provides a cost effective way to mitigate many poor roadway conditions.

Developers should be encouraged to and/or required to assist in the improvement of Town roads directly impacted by their proposed developments. Such improvements should include upgrading of intersections, bridges, traffic control and roads. Quite often elements such as intersections and bridges are impacted by multiple developments over prolonged time periods. Such improvements often have associated costs beyond the reasonable amount one development should bear. In this instance an improvement fund program, similar in nature to a parkland fund in lieu of parkland set aside, should be considered. Such a program may take the form of an impact fee program designed to mitigate adverse environmental impacts. Programs of this nature should be set up such that they are targeted for improvement in localized areas. Fees should be clearly targeted

[11]Local Road Classification Task Force, Guidelines for Rural and County Roads, Report to the Governor and to the Legislature, 1988

to proposed specific improvements The northeast portion of the Town will be a likely location for such a program, based on the future development anticipated in the area.

d. Summary and Recommendations

Given the probable growth of housing units within the northeast corner of the Town and possible additional growth along the entire east side of the Town, if additional water supplies are found, the Town needs to continue to develop and improve it's roadway network. Building on the base information supplied in this study, a Capital Improvements Plan addressing roads should be completed. Such a plan should include the following information in order for the Town Board to make rational decisions regarding road improvement funding:

1. Develop a Town Roadway Maintenance and Reconstruction program based on the priorities established in this study. Such a program will help the Town to budget funds for the maintenance and improvement of all Town Roads. The Plan should outline reconstruction, restoration and rehabilitation of all Town roads within a time span of a maximum of twenty years.

2. The proposed road standards identified in this plan should be implemented in order to help maintain the rural image of the Towns roads. Design improvements for new roads should also be proposed to reduce the visual impact of new roads and existing roads.

3. The existing Town roadway network should be further inventoried based on the "Local Highway System Inventory" developed by the New York State Department of Transportation and/or the New York State Local Road Classification Task Force Draft "Guidelines for Rural Town and County Roads", issued December 1988 or any subsequent revisions of these sources.

4. The Town Board, the Planning Board and the Town Engineer should be granted review authority over all development projects with the potential to affect the Town roadway system. Alternate funding sources for improvements necessary to accommodate new development should be explored. This may include grants, innovative bonding and/or the potential for impact fee assessments.

5. The Town Board, Planning Board and their representative must continue to inform, cooperate and coordinate with the New York State Department of Transportation, the Albany County Department of Public Works and the Towns of Bethlehem and Guilderland by supplying them with traffic data and probable mitigation measures that could affect their roadway networks and request the same.

E. Existing Water Districts

New Scotland has five public water districts: the Font Grove Road District, Heldervale District, Swift Road District, Feura Bush District and the Clarksville District. These districts are shown on figure 6-3. The Font Grove Road District, Heldervale District, Swift Road District and Feura Bush District, all receive water from the Town of Bethlehem public water supply system, which is also tied into the city of Albany . This system is composed of wells and a reservoir located outside the hamlet of New Salem in the Town of New Scotland. The Bethlehem system is also tied into the City of Albany's public water system for backup water supplies. The Clarksville District is the only water district in New Scotland which draws water from wells controlled by the Town of New Scotland.

Investigations are under way for the development of an additional district for the New Salem area. This area currently receives water from an existing water district of the Town of Bethlehem. If this district was established for New Salem it would simply transfer the burden for water line maintenance to the Town of New Scotland, water would continue to be supplied from Bethlehem's existing water supply sources. Limited water is also received from the Village of Voorheesville. Well field exploration is also underway to develop a water district to service the northeastern quadrant of the Town.

Most of the Town's hamlet areas are in part, or in whole, serviced by public water. Some outlying areas adjacent to water supply lines have also been incorporated into the water districts. All other water supplies in the Town come from individual wells, which will most likely continue to be the primary source for water in the Town.

F. Public Sewer Districts

New Scotland has no public sewer districts at present[12]. All homes and other land uses depend upon individual septic systems to process waste. The absence of public infrastructure, necessitating ongoing reliance on individual private septic and in many cases water systems, is a major factor in the land planning process. Because installation of individual septic systems and wells require certain land development characteristics and dimensions, the suitability of a piece of land for septic and water facilities largely determines the overall suitability for development. Generally speaking, lands suitable for septic systems can be zoned for more intensive use; unsuitable lands are best left open or developed at lower densities[13].

The State of New York's current development laws require that a subdivision of over 49 lots provide a unified private sewage disposal system to service all structures. This regulation promotes installation of unified systems in subdivisions that can support them and also allows for closer monitoring of an ground water contamination due to the central location of such a facility. Requiring a shared system for projects smaller than 50 lots, either as a matter of course, or as an option subject to the Planning Board's rule, will be necessary in the future for sound construction of cluster development or other alternate development forms mentioned throughout this plan.

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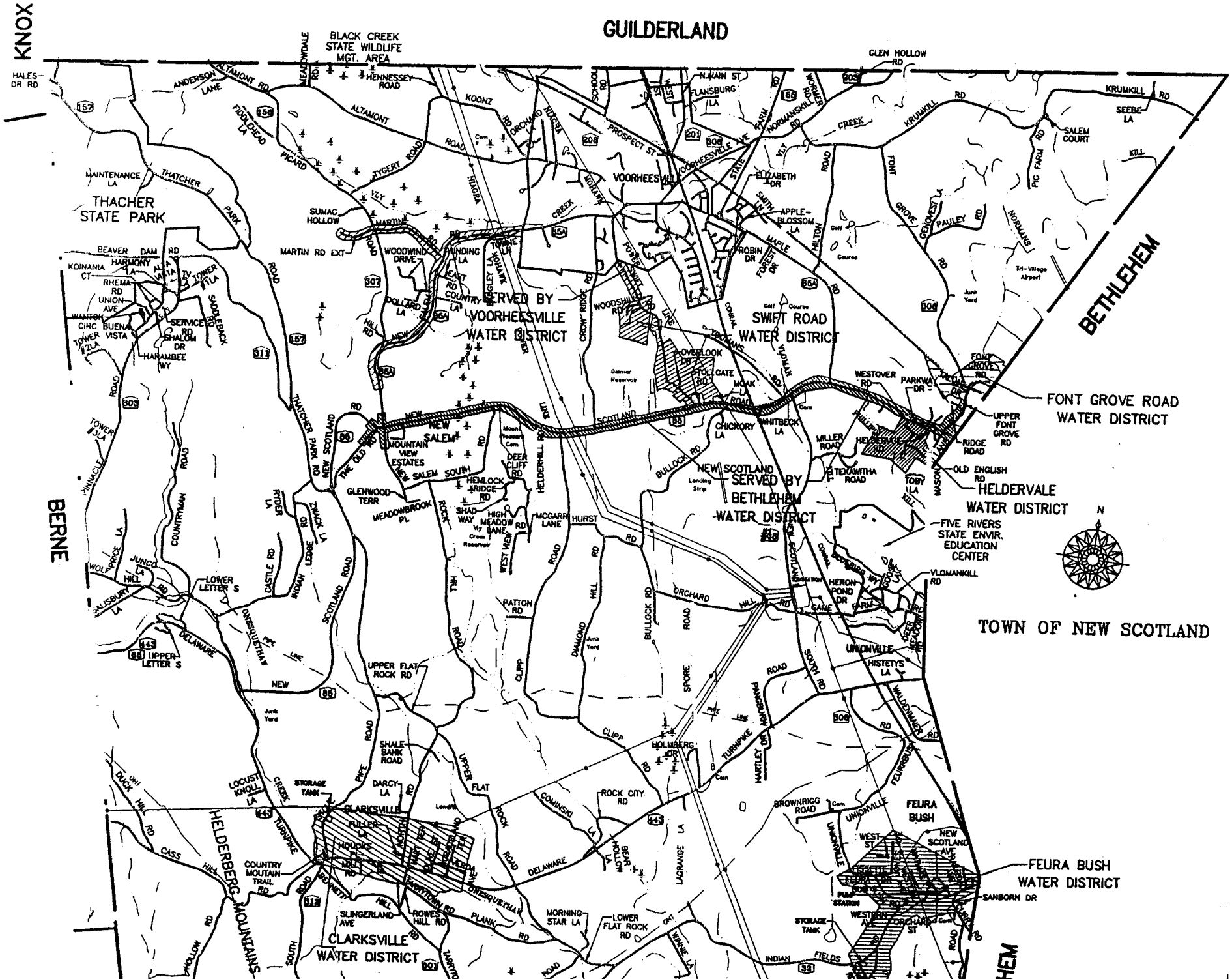
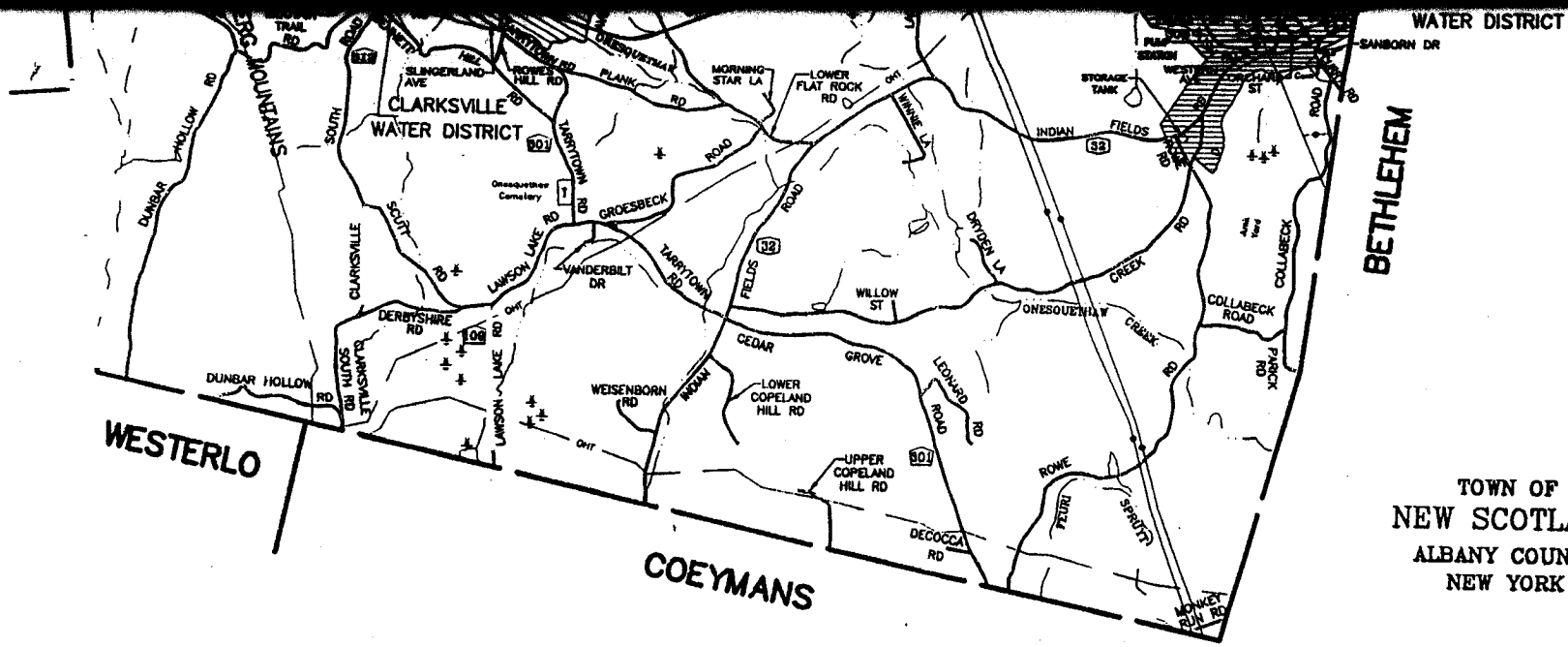
[12]This statement excludes the limited sewer service provided in the Town's northeast Heldervale section by the Bethlehem sewer district. Approximately 25 homes are serviced in that area.

[13]Physical land development capabilities are described in depth in Section III and IV of this plan.


KNOX
GUILDERLAND
BERNE
BETHLEHEM
BLACK CREEK STATE WILDLIFE MGT. AREA
THACHER STATE PARK
SERVED BY VOORHEESVILLE WATER DISTRICT
SWIFT ROAD WATER DISTRICT
NEW SCOTLAND SERVED BY BETHLEHEM WATER DISTRICT
FONT GROVE ROAD WATER DISTRICT
HELDERVALE WATER DISTRICT
FIVE RIVERS STATE ENVIR. EDUCATION CENTER
TOWN OF NEW SCOTLAND
FEURA BUSH WATER DISTRICT
CLARKSVILLE WATER DISTRICT
HELDERBERG MOUNTAINS
VOORHEESVILLE
NEW SALEM
UNIONVILLE
FEURA BUSH
LOWER LETTER S
UPPER LETTER S
CLARKSVILLE
N



WATER DISTRICTS – EXISTING & PROPOSED

- CLARKSVILLE WATER DISTRICT 1990
- FEURA BUSH WATER DISTRICT
- HELDERVALE WATER DISTRICT – EXISTING & PROPOSED 1990
- FONT GROVE ROAD WATER DISTRICT
- SWIFT ROAD WATER DISTRICT
- VOORHEESVILLE WATER DISTRICT
- BETHLEHEM WATER DISTRICT #1

BAR SCALE

4800 0 2400 4800 9600

1 inch = 4800ft.

Figure 6-4

WATER DISTRICT MAP

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Section VII. Community Development Analysis

Population, housing and local economic factors impacting the Town of New Scotland are presented in this chapter. New Scotland's identity as a residential community in the Capital District is described and issues relevant to the objectives of this comprehensive plan are discussed.

Many of the community issues presented in the last Master Plan (dated 1960) were re-examined for relevance today. Much of the information used to compile this section was supplied by the U.S. Bureau of the Census and the Capital District Regional Planning Commission; both estimate current population, housing and economic conditions based on the most recent U.S. Census (1990).

This section has five parts. Part A presents a brief overview of the community as described by the last master plan. Part B provides an in depth discussion on population trends in New Scotland and the Capital District. Part C discusses housing. Part D examines employment and business issues. Finally, in Part E, a summary of findings is presented and land development recommendations are made.

A. Town Character in the 1960 Master Plan

The 1960 Master Plan identified suburbanization as the primary force impacting rural land development in the Capital District. Although the brunt of residential growth was being directed at Guilderland, Colonie and Bethlehem, New Scotland was not passed over by growth. In fact, about 1,500 persons moved to New Scotland between 1950 and 1960.

The Town's population character in 1960 was dominated by families with young children. An unusually high birth rate and constant death rate was causing the population to swell, and when the Plan was drafted there were many children in New Scotland under the age of 15. This phenomenon, now known as the 'baby boom', created a generation that continues to dominate national demographics today.

The Plan described housing in the Town as strung along major transportation corridors and concentrated within the hamlets of New Scotland, New Salem, Clarksville, Unionville and Feura Bush. Home construction projects were small in size, consisting of a few homes at a time.

There was little industry or commerce in New Scotland in 1960. Residents commuted to jobs in the City of Albany or elsewhere in Albany County. Many were employed at industrial firms or by the New York State government.

B. Population

1. Regional population growth, 1960 to 1990

1960 to 1990

Table 7-1 presents relative population growth rates of selected municipalities in Albany County, 1950 to 1990. Suburbanization is apparent between 1950 and 1970 when every locality presented except the City of Albany experienced larger rates of growth than the County of Albany or State of New York. Between 1970 and 1990, rates of growth slowed in Colonie and Bethlehem but continued to exceed the State and County rates.

Table 7-1

COMPARATIVE GROWTH RATES, ALBANY COUNTY AND SELECTED ADJACENT MUNICIPALITIES OF THE TOWN OF NEW SCOTLAND, NEW YORK, 1950-1990

	Percent Change in Population			
	1950-60	1960-70	1970-80	1980-90
Albany City	-3.90%	-10.75%	-12.14%	-0.6%
Berne	14.39%	32.10%	24.30%	20.6%
Bethlehem	44.94%	23.72%	03.71%	13.4%
Colonie	73.81%	31.17%	8.27%	2.6%
Guilderland	149.23%	28.04%	28.38%	8.5%
New Scotland*	47.07%	45.77%	05.84%	4.6%
New York State	13.16%	8.69%	3.75%	2.5%
Albany County	14.01%	5.06%	0.29%	2.3%

Source: 1990 U.S.Census
*Does not include the Village of Voorheesville

1980 to 1990

The population of the Capital District increased during the 1980's. As of 1990 the Capital District has over three-quarters of a million residents, including an increase of 36,004 persons since 1980 (4.9% rate of growth)[14].

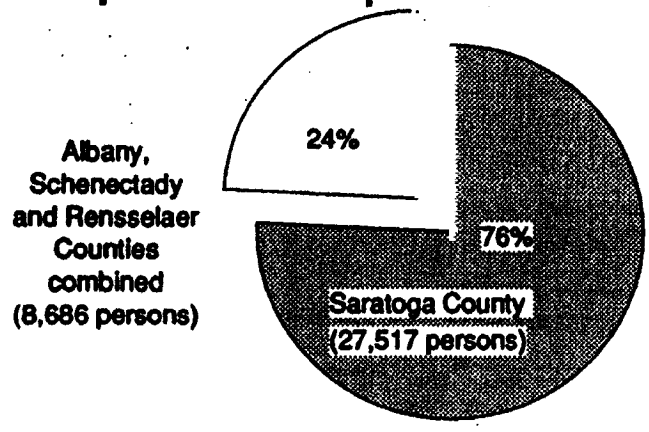
The net population gain in the Capital District, 1980 to 1990, is generally attributed to migration into the area in response to a strong economy, and maturation of the 'baby-boom' generation, whose members have aged to adulthood, formed independent households and had children.

Population gains were not spread evenly throughout the Capital District. Suburban growth in Saratoga County (Clifton Park, Ballston, Malta, etc.) accounted for nearly all the regional population gain in the 1980's. (Figure 7-1)

[14]Capital District Regional Planning Commission, 1990.

Figure 7-1

POPULATION INCREASE IN THE CAPITAL DISTRICT, 1980 TO 1990



Source: 1990 U.S. Census.

Although Saratoga County accommodated most of the area's new residents, new housing was also built in several Albany County suburbs, including Colonie, Bethlehem and Guilderland. Each grew during the 1980's, as did the rural towns of New Scotland and Berne.

2. Regional Population Characteristics

Age

Population statistics for the nation, State and the Capital District indicate that the average age is increasing. We are living longer and having fewer children. This trend, often referred to as the 'greying of the population', is identified (in the population) by an increasing median age and a declining birth rate.

Other more specific changes in the make up of the population can be identified by segmenting the resident base into important age stages, or cohorts (youth, young adult/child bearing, middle age, retirement[15]). Information provided by this exercise is used to anticipate future facility and service needs.

As presented in Table 7-2, Albany County's population grew older between 1980 and 1990. The median age increased from 31.3 to 33.9. In addition, the percentage of the population over the age of 65 increased from 13.5% to 14.6%.

[15]Ages 0-14 assumed to encompass infancy through grade school; 15-24 encompasses high school, college, trade school, apprentice training as well as entering work force age groups. First home buyers, single occupant renters and beginning family renters are often found within these ages. Ages 25-64 encompass the prime work force years, while ages 65 and up traditionally encompass retirement and secondary employment ages.

Table 7-2

DISTRIBUTION OF ALBANY COUNTY POPULATION

BY AGE COHORT, 1950 TO 1990

AGE	1950 Albany County	1980 Albany County	1990 Albany County
0-14	22.5%	19.1%	17.8%
15-24	13.1	20.0	17.7
25-34	15.4	16.5	17.1
35-44	15.1	10.1	15
45-54	13.5	10.2	9.5
55-64	10.8	10.6	8.8
65+	9.6	13.5	14.6
Median Age	N/A	31.3	33.9

N/A: Information not available
Source: U.S. Census, interpolated by C.T. Male Associates.

The relative magnitude of the large post-war 'baby-boom' is evident in the County's age stratification (underlined in Table 7-2). This generation (when under the age of 14) was a substantial presence (22.5%) in 1950. Unrivaled by the size of subsequent generations, the baby-boom continued to dominate the population into 1990, when it accounted for 32.1% of the population (see 25 to 44 years old).

A declining birth rate is indicated by the presence of relatively less children in 1990 than in 1950. The percentage of persons under the age of 14 declined from 22.5% in 1950 to 17.8% in 1990. Over the same period, persons in the child bearing years, aged 15 to 44, have increased from 43.6% to 49.8%. A decrease in the number of children, and an increase in the number of adults (of child bearing age), indicates that there are now fewer children per adult in Albany County. Members of the baby boom generation are having fewer children than their parents did. This lower birth rate contrasts sharply to the high rate identified in the 1960 Master Plan.

Household Size

As result of the aging population and declining birth rate, households are getting smaller. Changes in the average number of persons per household for the County of Albany and the United States are listed in Table 7-3. Accordingly, household sizes have steadily decreased nationally. Average household size in the United States declined from 3.37 persons to 2.63, 1950 to 1990.

Albany County has followed the national trend. The average household size has decreased from 3.18 in 1950 to 2.69 in 1990.

Table 7-3

HOUSEHOLD SIZE-AVERAGE PERSONS PER HOUSEHOLD

		1950	1960	1970	1980	1990
Albany County	persons/hhd	3.18	3.10	2.93	2.56	2.69
	% change		-2.5%	-5.5%	-12.6%	5.1%
United States	persons/hhd	3.37	3.33	3.14	2.76	2.63
	% change		-1.2%	-5.7%	-12.1%	-4.9%

NA Information Not Available
Source: U.S. Census Bureau, copied from Albany County Planning Department, Population Report, February, 1988

3. Trends in Population, New Scotland

Since the last master plan New Scotland has added 1,324 persons (1960-1990). As illustrated in Table 7-4, growth has not been a steady process.

Between 1960 and 1970, the Town experienced a relatively large influx of residents. During the 1970's, there was no net population increase. In the 1980's the population increased slowly: between 1980 and 1990, 258 new residents moved to Town.

Table 7-4

POPULATION TRENDS: TOWN OF NEW SCOTLAND, NEW YORK, 1960-1990

		Increase Over Preceding Census	
Year	Population	Absolute	Percent
1950	3,061		
		1,529	45%
1960	4,590		
		1,065	23.2%
1970	5,655		
		1	0.02%
1980	5,656		
		258	4.7%
1990*	5,914		

Source: U.S. Census.

Population growth in New Scotland has been small relative to what has occurred in several adjoining communities. A comparison of New Scotland's population to several of its neighboring municipalities, makes it clear how little the Town has grown since 1960 and that it is growing at a slower rate than neighboring communities. New Scotland gained 1,324 residents between 1960 to 1990. In contrast, the adjacent suburbs of Guilderland and Bethlehem grew by 12,054 and 8,618 persons, respectively. The Village of Voorheesville increased by 1,997. Even Berne, which lies west of New Scotland and farther away from area employment centers gained 1,511 persons - about 175 more than New Scotland.

Table 7-5

POPULATION INCREASES 1960 TO 1990

NEW SCOTLAND AND ADJACENT MUNICIPALITIES

Town	Population 1960	Population 1990	Change
Guilderland	16,710	28,764	+12,054
Bethlehem	18,936	27,554	+8,618
New Scotland	4,590	5,914	+1,324
Berne	1,542	3,053	+1,511
Voorheesville	1,228	3,225	+1,997

Source: Information compiled by the Capital District Regional Planning Commission.

The slow expansion of New Scotland relative to its more suburbanized neighbors is partly attributed to its location relative to the City of Albany; New Scotland is not as accessible by transportation routes as Guilderland and Bethlehem.

In addition, New Scotland has little public infrastructure, and natural restrictions limit septic and water facility development. Given the economies of suburbanization, the relative availability/viability of development infrastructure (water and sewer facilities) serves not only to accommodate, but to attract development. In this climate, New Scotland has not been as attractive as the more suburban areas of Guilderland, Colonie and Bethlehem, partially due to unsuitable land conditions and the absence of public infrastructure.

4. New Scotland, Population Characteristics

Although the Town has grown little since the last Master Plan, shifts in the resident base have occurred that echo regional trends.

Age and Household Size

The population of New Scotland has become older since 1950. This is documented by a relative increase in persons over the age of 65 and a decrease in persons under 14, 1950 to 1990. (See Table 7-6) In addition, households are smaller. Between 1970 and 1990, New Scotland's average household size decreased from 3.5 to 2.8 persons[16].

[16]U.S. Census. Figures rounded to the nearest tenth.

Table 7-6

TOWN OF NEW SCOTLAND

DISTRIBUTION OF POPULATION BY AGE COHORT, 1950 TO 1990

AGE	1950	1980	1990
0-14	27.1	23.0	20.3*
15-24	11.1	16.6	13.0
25-34	14.6	14.7	15.4
35-44	14.4	13.4	16.5
45-54	12.2	11.7	13.4
55-64	9.8	10.0	9.4
65+	10.8	10.6	11.8
Median Age	N/A	31.0**	35

Source: U.S. Census.

*C.T.Male interpolation
**Capital District Regional Planning Commission
Population Statistics, Prepared for C.T. Male Associates, January 1989

New Scotland: Maintenance of a Family Character

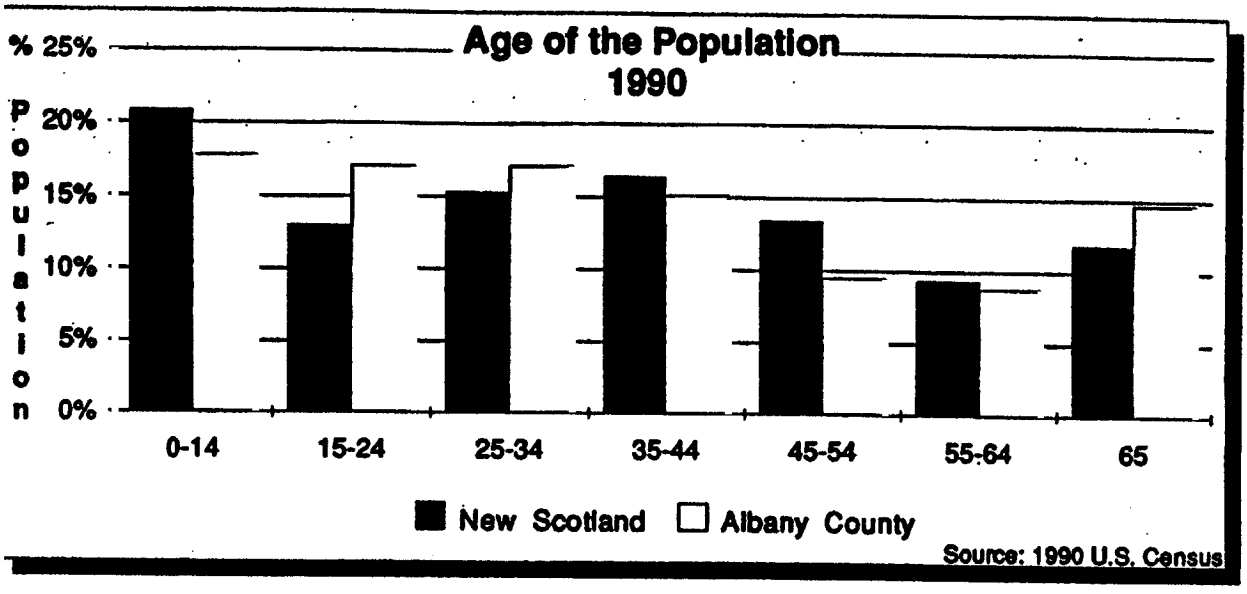
Although regional demographic trends (of increasing age and decreasing household size) are identified in New Scotland, the dynamics of the Town's population differ from Albany County in ways that indicate its identity as a residential community made up of families with children.

Comparing the Town's population to the County's by age cohort demonstrates that there were relatively more children in New Scotland in 1990 than in the County, and fewer persons over the age of 65. (Figure 7-2)[17]

[17]The majority of Town residents were aged 25 and 64. Interestingly, young adults, aged 25 to 44, were in smaller concentration in Town than in the County. This cohort, which contains part of the baby-boom generation, dominated the other populations in 1989. However, in New Scotland, they were not as large of a force. Perhaps this is the result of a relatively small supply of suburban family homes in New Scotland suitable for these households to purchase.

Figure 7-2

POPULATION BY AGE COHORT, 1990



The current average household size in New Scotland was estimated to be larger than that of Albany County or the Capital District. In 1990 New Scotland's average household was comprised of 2.81 persons, compared to 2.69 persons in Albany County and 2.63 persons in the United States[18] . Average household size in New Scotland resembled that of suburban Saratoga County which is populated mostly by families with children.

5. Future Population

Regional population projections are presented in Table 7-7. These projections have two sources. The projected population of the County as a whole was prepared by the State utilizing birth and mortality rates and regional economic projections. This County-wide value was then distributed among municipalities by the Capital District Regional Planning Commission, in cooperation with the Albany County Planning Board, based on trends in the housing market, availability of vacant land and development regulations in effect (Source: Capital District Regional Planning Commission).

According to the State projection, Albany County will experience a net increase of about 15,653 persons between 1990 and 2010. As distributed at the regional level, the County increase will result from slow, steady growth in suburban areas. Municipal projections, presented in Table 7-7, indicate that New Scotland will grow steadily at a faster pace than in prior decades, showing a gain of about 1,000 persons over the next 20 years.

[18]See Figure 7-3, PROJECTED HOUSEHOLD SIZE.

Table 7-7

POPULATION PROJECTIONS

		1990	1995	2000	2005	2010
NEW YORK STATE		17,990,455	18,278,302	18,515,920	18,719,585	18,925,511
	% change	2.5%	1.6%	1.3%	1.1%	1.1%
ALBANY COUNTY		292,793	297,012	301,584	305,444	308,446
	% change	2.4%	1.4%	1.5%	1.3%	1.0%
ALBANY CITY		100,031	99,877	99,979	100,050	100.114
	% change	-1.6%	-0.2%	0.1%	0.1%	0.1%
BERNE		3.053	3.290	3.494	3.684	3.811
	% change	20.6%	7.2%	6.2%	5.5%	3.5%
BETHLEHEM		27,552	29,255	30,953	32,209	33,063
	% change	13.4%	6.2%	4.1%	2.7%	2.7%
COLONIE		76,497	77,464	78,278	79,016	79,626
	% change	2.6%	1.3%	1.1%	0.9%	0.8%
GUILDERLAND		30,011	31,830	33,478	34,862	35,958
	% change	8.5%	6.1%	5.2%	4.2%	3.1%
NEW SCOTLAND		5,916	6,118	6,428	6,705	7,053
	% change	1.8%	3.4%	5.1%	4.3%	5.2%

Note: Based upon existing development conditions and infrastructure available.
Source: Capital District Regional Planning Commission, 1992.

The population projections have limitations. This is particularly true at the municipal level where they are based on many judgments about the interrelationship of regulation, infrastructure and market conditions in one municipality relative to the surrounding area. A change in zoning will impact a projection. Similarly, the introduction of water and sewer systems within a rural community will increase the population projection. Population projections at the town level are useful to the extent that they are based on realistic assumptions.

An alternate population projection (1990 to 2010) is suggested based on the intense interest in development which has been expressed recently in the Town of New Scotland[19]. Residential development proposals have indicated that new home construction could average 150 units per year[20]. At that rate, the population could be as high as 11,700 residents by the year 2010[21].

More realistically, based on market trends and regional forecasts, combined with an assumption that additional water and sewer facilities will be made available in certain areas of the Town, Town policy makers should anticipate the arrival of between 1,000 and 3,000 new residents between 1990 and 2,000, and 500 to 2000 new residents, 2000 to 2010[22]. This would increase the 1990 population from 5,916 to more than 8,000 by the year 2000. By 2010, the population could exceed 9,000 persons.

Because of the Town's geographical size, a population increase of this magnitude could easily be accommodated without disturbing the spacious feel of the community. But, anticipating a population gain is important to policy makers who must be quick to assess any excess burden on the Town's schools, parks, roads and fire departments created by new development.

6. Future Population Characteristics

The demographic trends mentioned earlier, namely the 'greying of the population' and decreasing household sizes, will continue to impact the Town of New Scotland in the future.

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[19]Note: The Town has been investigating development of a new water district to service the northeast portion of the Town. In combination with numerous proposals by local developers, it is anticipated that this area of Town will experience faster growth over the next 10 to 20 years than ever previously experienced.

[20]Assuming enabled through zoning, and made feasible by water and sewer facilities (either public or private).

[21]Based on the following calculation:

YEAR	ESTIMATE	HOUSEHOLD SIZE*	NEW UNITS	POPULATION GAIN 1990
	5,916	2.48	150	+372
1995	6,288	2.45	750	1,837
2000	8,125	2.41	750	1,808
2005	9,933	2.39	750	1,793
2010	11,736	2.36	750	1,770

Source: *Capital District Regional Planning Commission, Population Statistics, Prepared for C.T.Male Associates, January 1989
C.T.MALE Estimations based on current proposals before the Town of New Scotland Planning Board.

[22]Based on regional trend indicating a slow-down of development and population increase 2000 and 2010.

Table 7-8

TOWN OF NEW SCOTLAND

POPULATION BY AGE COHORT, 1990 AND 2000

Age Cohort	1990		2000		Change
0-14	1,230	20.8%	1,221	20%	-0.8%
15-24	769	13%	865	13.5%	0.5%
25-34	902	15.4%	815	12.7%	-2.7%
35-44	966	16.5%	1,004	15.6%	-0.9%
45-54	793	13.4%	929	14.5%	+1.1%
55-64	553	9.4%	736	11.5%	+2.1%
65+	699	11.8%	858	13.3%	+1.5%
	5,914	100%	6,428	100%	

Source: Capital District Regional Planning Commission, Population Statistics, Prepared for C.T. Male Associates, January, 1989.

In the 1990's, as the post war generation ages, a greater percentage of the population will be over the age of 45. They will be in their prime wage earning years and many will be empty nesters. An increased demand for move-up housing should be anticipated to meet the needs of this population. Then, in the year 2000, when more persons than ever before are over the age of 65, more senior citizen housing, congregate care facilities and associated health care services will be needed in the region.

Over the next 10 years, children born to the baby boom generation will increase grade school enrollments. Similarly, as they progress to young adulthood between 2000 and 2010, the number of high school, technical school and college age persons will increase into 2010.

Household sizes are projected to continue to decrease over the next 20 years[23]. By 2010 the average household in Albany County may be as small as 2.58 persons; the average household in New Scotland as small as 2.78 (see Figure 7-3)[24].

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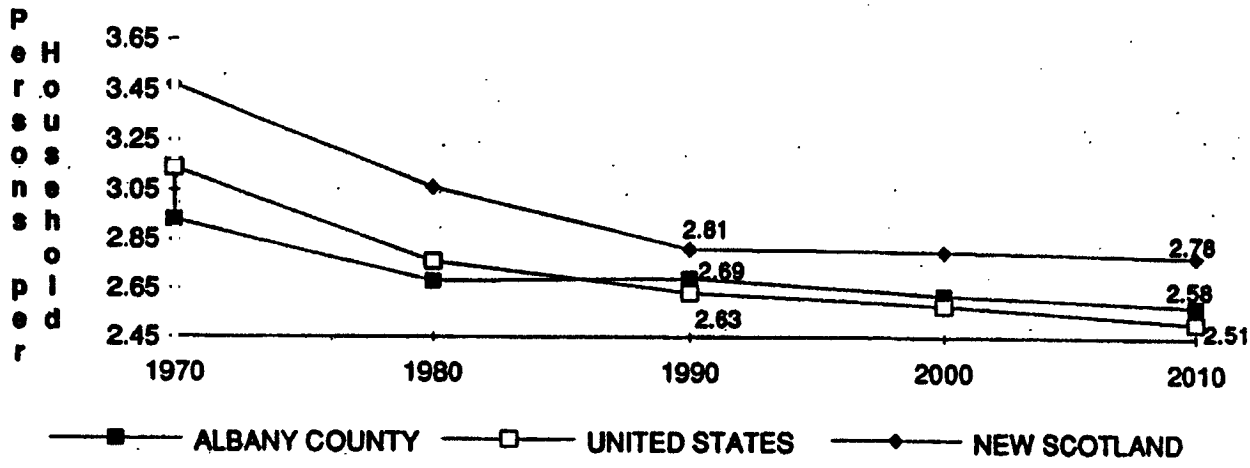
[23]The continued trend of decreasing household sizes attributed to:
a) The elderly are living longer, many of whom live alone.
b) The number of divorces will increase due to the large number of baby boomers who have married. As the baby boomers age into their 40's and 50's, however, most of them will be aging out of the most divorce prone years of the 20's and 30's. This should mean that divorce rates will drop, decreasing the impacts of divorce on household growth after the turn of the century.
c) Many young persons continue to postpone marriage and set up independent households.
d) Where there are both a husband and a wife present, as in a "traditional" household setting, they are less inclined to have as many children as the generation that preceded them.
(Source: Capital District Regional Planning Commission)

[24] Assuming a continued shrinkage at a constant rate of 3% per year.

Figure 7-3

Average Persons per Household 1970-2010



Market demands for housing within the Capital District will be impacted by this trend toward smaller household size because each household requires its own residential space. More, smaller households, impact on the physical landscape by requiring more housing per person. This effectively raises the demand for housing without increasing the population. Importantly, because of reduced household sizes, many municipalities will be adding housing units over the next 20 years without experiencing an increase in population.

C. Housing

As reported in the 1990 U.S. Census, there are approximately 2,228 housing units in the Town of New Scotland[25]. Eighty three percent (83%) of housing units are contained within single family dwellings. Eighty percent (80%) are owner occupied.

Many of the homes in New Scotland date to 1939 or earlier. However, many houses were built in the 1950's and the 1960's to accommodate large population increases during those decades[26].

Information on residential construction in New Scotland and several other Albany County towns is presented in Table 7-9. Accordingly the Town of New Scotland added about 130 housing units between 1988 and 1992.

The data in Table 7-9 indicates that between 1988 and 1992 housing development in the Albany area continued to expand outward from the City to suburban locations. Many more new housing permits were issued in suburban communities than in the City, and single family housing remained the dominant type.

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[25]Capital District Regional Planning Commission, 1990. Residential structures in New Scotland can be broken down into four categories: single family dwellings (1,836, or 83%); units contained in two-family structures (189); units within multi-family dwellings of 3 or more units (83); and mobile homes/trailers (12).

[26]1990 United States Census.

The brunt of new housing development occurred in the communities lying close to the City of Albany which had water and sewer facilities or suitable geological conditions available to accommodate development. The Town of Colonie saw the most new home construction, but Bethlehem and Guilderland also experienced comparably substantial growth over the period.

Although overshadowed at the regional level by home construction in other suburbs, the addition of 130 new units in New Scotland between 1988 and 1992 is substantial relative to total units in the Town. When the number of housing units constructed since 1980 is considered, 338 units in total have been constructed in the town. This represents 15% of all units.[27]

[27]US Census Bureau, compiled from: Albany County Planning Department, Population Reports, February, 1988.

Table 7-9

BUILDING PERMITS FOR HOUSING UNITS: ALBANY COUNTY, NEW SCOTLAND AND SELECTED ADJACENT MUNICIPALITIES[28] 1988-1992

	1988	1989	1990	1991	1992	TOTAL UNITS	% OF TOTAL
ALBANY							
one family units	156	78	57	40	39	370	32.80%
two family units	188	182	74	24	30	498	44.15%
3&4 family units	0	0	4	3	0	7	0.62%
5 + family units	122	86	27	0	18	253	22.43%
Total Units	466	346	162	67	87	1128	
BETHLEHEM							
one family units	137	133	89	97	207	663	59.95%
two family units	2	0	0	2	0	4	0.36%
3&4 family units	20	0	40	0	23	83	7.50%
5 + family units	106	124	0	40	86	356	32.19%
Total Units	265	257	129	139	316	1106	
COLONIE							
one family units	340	203	124	220	303	1190	87.82%
two family units	0	2	0	0	0	2	0.15%
3&4 family units	0	0	0	0	0	0	0.00%
5 + family units	39	66	8	50	0	163	12.03%
Total Units	379	271	132	270	303	1355	
GUILDERLAND							
one family units	274	182	122	144	180	902	81.70%
two family units	2	0	0	0	4	6	0.54%
3&4 family units	4	0	3	9	0	16	1.45%
5 + family units	24	24	13	55	64	180	16.30%
Total Units	304	206	138	208	248	1104	
NEW SCOTLAND							
one family units	22	13	19	18	20	92	70.77%
two family units	6	0	0	6	2	14	10.77%
3&4 family units	0	0	0	0	0	0	0.00%
5 + family units	0	0	0	0	24	24	18.46%
Total Units	28	13	19	24	46	130	

Source: Capital District Regional Planning Commission, 1993.

[28]Shortcomings do exist for this data. One shortcoming is that not all units for which permits were issued are actually constructed. Secondly, demolition permits may be issued for housing units which were vacant or derelict, and thirdly, the definition of a single family home is often confusing. The census Bureau definition considers a single family unit as any unit which "is separated from its neighbors by an unbroken ground-to-roof party wall." Using this definition, what many municipalities would classify as multi-family units, row houses, or town houses are instead classified as single family units. Despite these shortcomings, this data can help to establish patterns of development within a community which can be used in connection with population characteristics to project anticipated future housing demands.

1. Residential Development Patterns

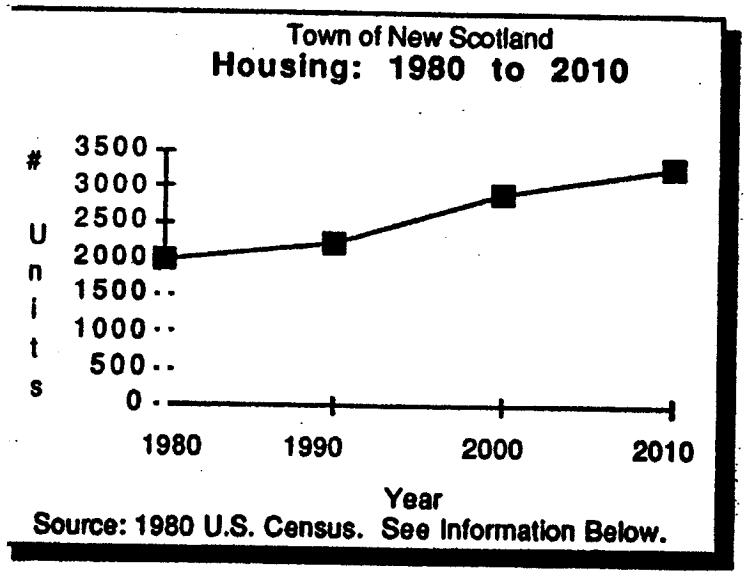
Since the last Plan, residential growth in the Town continued to occur in small subdivisions of less than 10 lots. Most new housing was built along existing roads. A few larger subdivisions, where development extends back from the main roads, have recently been proposed to the Planning Board. Most of the larger developments are located in the northeast portion of the Town, adjacent to the Village of Voorheesville and within the limits of the Town of Bethlehem water district, where municipal water supplies and transportation corridors are available.

2. Future Housing Development

The number of housing units that will be built in New Scotland between 1990 and 2010 has been projected based on the demographic trends presented in this comprehensive plan (Figure 7-4[29]) Based on census counts, building permit data and demographic trends, it is estimated that there will be over 2,700 housing units in New Scotland in 2000 and over 3,000 in 2010.

Figure 7-4

ACTUAL AND PROJECTED HOUSING: 1980 to 2010



Regulations governing housing development in New Scotland should be attentive to the future needs of the population. Residents' changing needs are predicted by demographic trends and regional economic changes.

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[29] Estimates based on projected population of 7,416 in 2000 and 8,166 in 2010, derived from assumptions made pages VI-12 -14. Assuming an average household size of 2.81 persons over the decade between 1990 and 2000 and 2.79 persons 2000 to 2010. Actual projected housing units of 2,228 in 1990, 2,761 in 2000 and 3,030 in 2010.

New Scotland policy makers should anticipate the impact on housing demand, a shift in the age of the population will cause. In addition, the ability of the residential market to supply affordable and appropriate housing for long time Town residents is another concern. Both of these issues should be addressed by the Town Board when considering changes to the Town land use regulations.

3. Impacting Demographics

In 1990, 2000 and 2010 there will be more, smaller, households, middle aged or older and without children. Whether these households are longtime residents of New Scotland seeking to relocate, or households from the Capital Region at large, they will be a substantial force in the housing market to come.

These households (termed 'empty nesters' by some) will require more services in the area of health care and recreation. However, because they are beyond child rearing age, they will not have offspring that add stress to the school system.

The needs of these empty nesters will constitute a significant future housing demand. The character of homes attractive to these households is projected to differ somewhat physically from standard single family housing. This group will require less bedroom and family living areas; but they will look for housing which offers limited maintenance, more luxury, and perhaps on-site recreation, commercial or health care facilities.

Developers, in turn, will target projects in the next two decades to meet the demand of these 'empty-nesters' in communities where development regulations allow. Therefore, should the Town wish to accommodate this population group, regulations should be reviewed in light of the housing 'empty-nesters' will be demanding in future years.

4. Housing Costs

Since 1980, local household incomes have increased at a slightly slower pace than incomes in the capital district as a whole. In 1990, the median household income in New Scotland was $44,954[30]; the Capital District's was $33,456[31].

The average income of a New Scotland household can be examined in relation to home sales prices to gage whether homes currently being sold in Town are affordable to residents. There is a measure of comfort gained by the exercise; in 1990, a household of median income in New Scotland can afford a $132,000 home[32] which exceeds the median price of a home in Albany County ($111,600 in 1989[33]). By contrast, if the same calculation is performed on the average Capital Region household, an affordable home price would be around $95,000.

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30 Interpolated from data supplied by the Capital District Regional Planning Commission, 1989 Estimates.

31 Center for Economic Growth, Demographics and Economic Data For New York's Capital Region, 1989.

32 If the 1990 median household in New Scotland, pays 25% of their gross income for shelter; this translates into a monthly payment of about $935 to cover mortgage principal and interest. At an interest rate of 9%, $935 monthly would finance a mortgage of $120,000. Assuming that the household places a 10% down-payment on the property, an affordable home purchased by the average New Scotland household in 1990 would be priced at around $132,000.

33 "New York State Housing Trends", New York State Association of Realtors, as presented by in Capital District Data, March/April 1990.

This information does not provide insight into whether homes affordable to households of regional median income are available in the Town and to what extent New Scotland possesses housing to meet the needs of the diverse income groups in the capital district.

D. Economy

Economic issues impact land development by controlling the incomes and commuting patterns of existing and potential Town residents. As major determinants of residential real estate demand, income and commuting trends create market conditions that lead to construction of housing and retail stores. In addition, regional economic shifts influence the demands of businesses which might seek to locate in New Scotland.

Information is presented in three subsections. First, Town businesses and resident workers are described; and second, the Capital District economy is discussed; finally, land development policies governing commercial and industrial land uses are suggested.

1. Town of New Scotland: Local Enterprise

Employment

The number of persons employed in New Scotland is shown in Figure 7-10 by major industry category. This data identifies the amount and type of business enterprises in the Town. Accordingly, in 1990, 1066 jobs were provided in New Scotland.

The majority of employment is categorized as *Manufacturing* (325) and *Public Administration* (387). However, *Construction, Wholesale/Retail Trade* is also present. Employment in the fields of *Transportation, Communications, Utilities, Finance, Insurance, Real Estate* and *Services* (including legal, medical and business service enterprises) is less common.

Table 7-10

ESTIMATED EMPLOYMENT IN NEW SCOTLAND BY INDUSTRY, 1990

Industry	# Jobs	# Jobs*
Agriculture, Forest, Fish & Mining	40	40
Construction	134	339
Manufacturing	325	500
Transportation, Communications & Utilities	32	32
Wholesale & Retail	85	270
Finance, Insurance & Real Estate	0	4
Service	63	101
Total	1066	1851

Source: Capital District Regional Planning Commission, 1990.
* Includes the Village of Voorheesville which contained 785 jobs in 1990.

Commerce and Industry[34]

Manufacturing and industrial employers in New Scotland include Atlas Copco Comtec (approx. 150 jobs) and Spalding and Rogers Manufacturing (approx. 35 jobs). In addition, there are a few building supply enterprises and several small industries on the New Scotland side of the Selkirk industrial park area.

Employment in the field of public administration is provided at a State Department of Transportation satellite office and by Town and County government offices.

Wholesale and retail employment is concentrated at local businesses in Voorheesville and the hamlets of Clarksville, Feura Bush, New Salem and New Scotland. In addition, labor is required at the two recreational facilities in Town: the Colonie Country Club and Camp Pinnacle, a religious retreat.

With little industry, no large retail shopping facilities, and, based on the absence of jobs in the fields of finance, insurance, real estate and service, few offices and 'white collar' firms, New Scotland's rural character remains essentially unchanged since the last master plan was prepared. However, the small number of agricultural, forest, fish and mining employment in the Town does indicate that the agricultural industry has shrunk substantially since the last plan.

The quantity and character of business have several basic impacts on a Town. Perhaps most important is the effect commercial and industrial property has upon the total value of real property within a community. This value, also known as the Town's ratable base, is measured by the total assessed value of all property. The value determines the strength of municipal finances in many ways by dictating bonding capacity and determining taxation. In addition, the mixture of property types which make up the property base (i.e.. residential, commercial and industrial) determines how tax burdens are distributed, and how much must be born by residential property owners.

Another impact of a limited commercial/industrial base is that residents must do most of their shopping outside the Town. Similarly, residents must be employed at firms in other municipalities. The extent to which residents commute to work and shop outside the Town has established New Scotland as a rural bedroom community of the greater Capital District area.

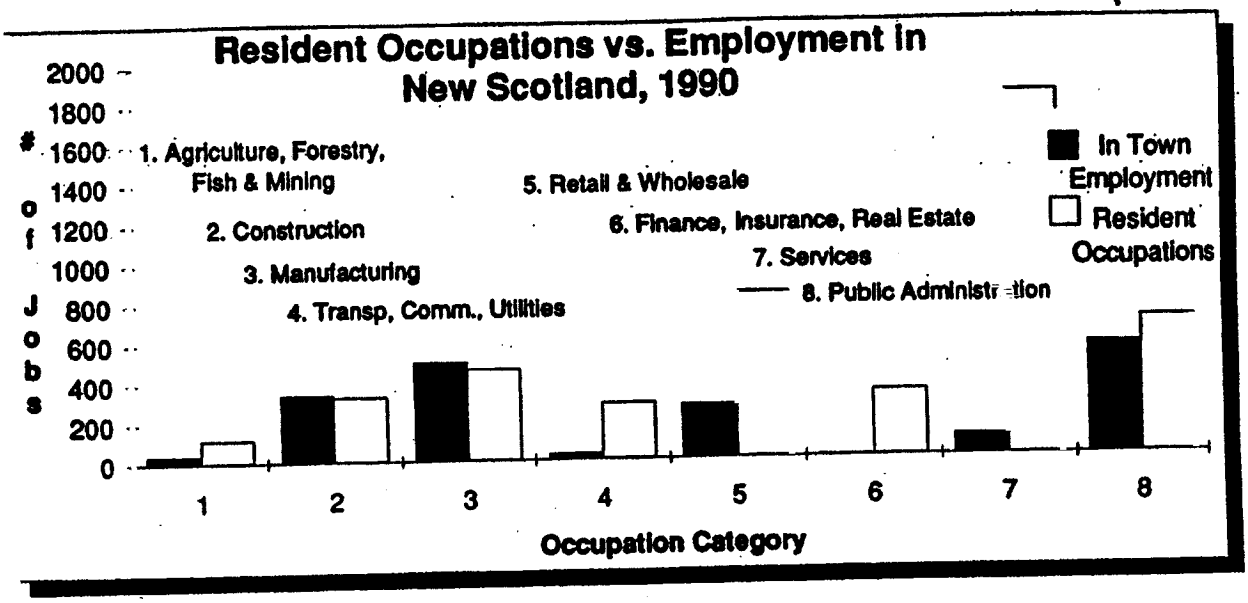
2. Town of New Scotland: Resident Labor Force

In contrast to the homogeneous employment provided in Town, 1990 Census statistics indicate that New Scotland's commuting residents were employed at a cross section of industries (Figure 7-5 and Table 7-11).

[34]Town of New Scotland Assessor, 1990 and the Albany Colonie Center for Economic Growth, 1990.

Figure 7-5

RESIDENT OCCUPATIONS VS. EMPLOYMENT PROVIDED IN TOWN[35]



Sources: Resident Occupations supplied by 1990 U.S. Census. In-Town Employment from the Capital District Regional Planning Commission, 1990.

Over a third were employed at firms providing *Services* (including legal, medical and business service enterprises), and another 14% worked for establishments providing *Public Administration*. Thirteen percent (13%) worked in the *Retail Trade* industry.

Table 7-11

NEW SCOTLAND RESIDENT EMPLOYMENT BY INDUSTRY, 1990

Industry	% of Employed Residents
Agriculture, Forest, Fish & Mining	2.4%
Construction	6.7%
Manufacturing	9.5%
Transportation, Communications & Utilities	5.8%
Wholesale	4%
Retail Trades	13%
Finance, Insurance & Real Estate	6.8%
Service	37%
Public Administration	14%
Total	100%

Source: 1980 Census. Based on all residents employed.

[35]The graphic (Figure 7.2) compares the jobs held by Town residents in 1990 (white columns) to jobs provided in New Scotland (black columns). Accordingly, resident occupations exceed the number of jobs offered in New Scotland in all fields except 'manufacturing' (#3). Employment in the largest occupational area, 'services', is barely available in Town, as is 'finance, insurance and real estate'.

Resident Employers

Given the Town's proximity to the State government offices in Albany, it is not surprising that many residents (22%) were employed by State or Federal government in 1990 (Figure 7-12).

The concentration of government workers in New Scotland has increased since the last master plan. At that time, 20% of employed persons worked for government (including Federal, State and *Local* governments) compared to 31% in 1990.

Self employment[36], which is associated with home industry and farming, was more common in the New Scotland work force (7%) than in Albany County (5%) or region in 1990. This reflected a more rural character relative to the rest of the area. However, the concentration of self employed persons in New Scotland is on the decline. Since the last master plan, the percentage of self employed workers has decreased sharply from 20% (1950 U.S. Census) to 9% in 1990.

Occupation of New Scotland Residents

As of the 1990 Census, the more common New Scotland resident occupations were those in the *Technical, Sales and Administrative*, and *Managerial and Professional* fields.(Table 7-12).

[36]Self Employed defined by the U.S. Census as persons who worked for profit or fees in their own business, profession or trade, or who operated a farm.

Table 7-12

OCCUPATION OF NEW SCOTLAND RESIDENTS, 1990

OCCUPATION	NEW SCOTLAND* # Workers	%	ALBANY COUNTY # Workers	%	SMSA** %
Management and Professional	*1790*	*37%*	*49,145*	*33%*	*31%*
Technical, Sales Admin. Support	*1633*	*33%*	*57,024*	*38%*	*36%*
*Service****	*469*	*10%*	*18,170*	*12%*	*12%*
Farming and Forestry	*95*	*2%*	*1096*	*1%*	*1%*
Precision, Craft, Repair	*441*	*9%*	*10,944*	*7%*	*9%*
*Machinists, Fabricators, Laborers*****	*462*	*9%*	*13575*	*9%*	*11%*
Total Employed	4890	100%	149,954	100%	

Source: 1990 U.S. Census. Percentages rounded to the nearest point.
* Includes New Scotland and the Village of Voorheesville.
** Standard Metropolitan Statistical Area. Includes Albany, Schenectady, RENSSELAER, Montgomery, Greene and Saratoga Counties.***Service: includes private household, protective services and other service workers. ****Machinists, Fabricators, Laborers: includes industrial workers categories.

With the exception of a higher concentration of *Farm and Forest* workers, and a lower concentration of *Service* workers, the Town's statistics almost mirror those of the Capital District SMSA, but they differ somewhat from those describing residents of Albany County. The Town reported a significantly higher concentration or managerial and professional employees and a lower concentration of technicians, sales and administrative staff. The concentration of managerial and professional employees in Town has increased substantially since the 1980 Census when this group made up 27% of the work force. In 1990 37% of the work force fit into this category. This concentration is substantially higher than the county or SMSA.

Place of Work

In 1990 most New Scotland residents worked outside the Town but within Albany County. About half of those who worked in the County worked in the City of Albany. Few residents were employed in other Capital Region counties or outside the Albany metropolitan area[37].

3. Albany County Metropolitan Area

The trend of New Scotland residents to be employed regionally was identified in the last master plan and is assumed to continue today. The Albany County economy, and to a lessor extent the Capital District at large[38], will continue to be the primary site of employment for Town residents. Because local markets (for housing, commerce and industry) in New Scotland are a by-product of these economies, regional economic shifts were analyzed and are presented in the following section.

The Capital Region: Overview

The Capital Region is centrally located and within a day's traveling distance to many North American markets, including Buffalo, Montreal, Hartford, Philadelphia, Boston and New York City.

The area has functioned as an interchange between goods and markets for centuries. Early on the Capital District served as an important market point for goods from the Adirondacks. It was also home to the Erie Canal and some of America's first railroads which connected north-eastern America to the west.

Railroads and waterways remain an important means of transportation today. The Hudson River connects the ports at Albany and Rensselaer with New York City and the Atlantic Ocean. The Barge Canal provides an east-west connection to the Great Lakes. Railroads and a modern highway network, including New York State Thruway, Interstate 90 and Route I-88 connect the area to the north, south, east and west.

The Region's employment base is heavily influenced by the presence of New York State government. As home to the Capital of New York State, the District has benefited from long-term stability and underlying economic power provided by the government, its labor force, and associated business spin-off activities. In addition, the Capital District area has established itself in New York State as a center for education, health care, technology, finance and manufacturing.

The impact of employment provided by the State government, technical firms, higher education, and the Albany/Rensselaer port facilities was identified in the 1990 U.S. Census. The Census information indicates higher concentrations of administrative and clerical personnel, technical workers and transportation workers in the Capital District than state-wide.

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[37] 1990 U.S. Census.

[38] Current estimates project that over half of total employment in the Albany SMSA (Albany, Schenectady, Rennselaer, Montgomery, Saratoga and Greene Counties) lies within Albany County. Source: Albany/Colonie Chamber of Commerce, 1989.

Commerce and Industry, 1982-87[39]

Shifts in employment are an indicator of regional economic change. According to information from the N.Y. State Department of Labor, the Albany area regional economy[40] is growing. Between 1982 and 1992, the area added 75,500 jobs (net). This 22% increase in the Albany area labor market, contrasts with a smaller increase statewide over the same period.

Table 7-13

ALBANY METROPOLITAN AREA,

EMPLOYMENT SHIFTS IN SELECT INDUSTRY 1982-1992

Industry	1982	1992	Net Jobs	% Change
Finance, Insurance and Real Estate	16.5	26.9	10400	63%
Printing and Publishing	4	6.3	2300	58%
Construction	10.7	15.7	5000	47%
Health Services	25.3	36.5	11200	44%
Retail Trade	53	67.1	14100	27%
Apparel	3.6	4.4	800	22%
Paper and Allied Products	3.2	3.6	400	13%
Transportation and Public Utilities	16	16.4	400	2%
Wholesale Trade	17.2	18.6	1400	8%
Manufacturing	54.2	44.8	-9400	-17%
Electronics	18.7	12.5	-6200	-33%
Food	4.4	3.3	-1100	-25%
Textile Mill Products	3.3	1.7	-1600	-48%
SMSA Total (non agricultural)	348.3	423.8	75500	22%

Source: Annual Labor Area Report, Albany, Schenectady, Troy Area, 1992. New York State Department of Labor.
Based on private sector jobs covered by the New York State Unemployment Insurance Law.

The shifts that have occurred in the Albany metropolitan area evidence a trend towards increasing service and retail employment and decreasing manufacturing and wholesale industry.

Accordingly, the greatest number of employees added between 1982 and 1992 were in retail, health services and finance, insurance and real estate. Coinciding with the real estate boom in the 1980's, the construction industry also experienced substantial growth.

On the other hand, manufacturing, electronics production, food production and textile mill employment experienced substantial losses.

The expansion of non-manufacturing industries and the decline of manufacturing employment is expected to continue through the 1990's. This move away from manufacturing toward a more service oriented economy is an ongoing regional trend. Accordingly, retail, services, finance, insurance, real estate and government

[39]N.Y. State Department of Labor. Annual Labor Area Report, Albany, Schenectady, Troy Area, 1989.
[40]Regional area defined as Albany, Schenectady, Rennselaer, Montgomery, Saratoga and Greene Counties.

employment opportunities are anticipated to increase over the next 10 to 20 years. On the other hand, with the exception of high-tech material production, manufacturing is expected to decline.

4. Directions for Zoning

With plentiful retail and service establishments provided in neighboring municipalities, Town residents need only to travel by car to purchase goods and services. The absence of retail facilities may have little effect on New Scotland residents today. However, consideration should be given to developing land use regulations which permit small scale neighborhood retail, service and office establishments in hamlets, to compliment residential areas and provide residents with easy access to neighborhood shopping. In addition, zoning which allows shopping plazas and office parks is suggested in carefully selected locations.

Given the many employment opportunities available in Albany County, there is no immediate need for the Town to attract commerce and industry to generate employment. However, preservation, or more appropriately, reservation through zoning policy, of vacant lands which are environmentally suited for more intensive commercial and light industrial uses is recommended to address the economic development goal of this Comprehensive Plan. By reserving scarce land for light industrial, manufacturing and commercial land uses today, zoning can be used to protect economic development opportunities for future generations.

E. Summary

1. Findings

Many of the land development dynamics presented in the last Plan (1960) are still relevant today. Residential suburbanization continues to be the dominant development pressure in New Scotland; but this time its cause is not limited to families leaving the city for the suburbs. Rather, the demand for new suburban housing is attributed to the maturation of the baby boom generation, smaller independent households and a strong regional economy.

Albany, Schenectady and Troy, as identified in the 1960 Master Plan, continues today. Since that writing, development in many Albany County suburbs including Guilderland, Bethlehem and Colonie has been ongoing. In addition, other communities, particularly Saratoga County towns lying along the Northway (Clifton Park, Malta and Ballston), have become popular Capital District suburbs.

Despite this regional activity, New Scotland maintains a low density agricultural character and there has been little housing or commercial development since the last plan. Its relatively slow growth is attributed to location and the lack of public or private infrastructure (water, sewer, road network) sufficient to support higher intensity development.

Consistent with its rural character, commerce in New Scotland is limited to a few industries and several retail establishments. Centers for working and shopping are found outside the Town in the City of Albany, elsewhere in Albany County or in the Capital District. These commuting patterns define New Scotland's identity as a rural suburb of the Capital District.

Like the Capital District population, New Scotland residents are employed by a variety of businesses, and have diverse occupations. In 1990, the most common occupations

were white collar, including managerial, professional, technical and sales employment.

New Scotland is a part of the expanding Albany Area economy. The economy has generated many new jobs during the decade. The growth is attributed to business services, health care, retail trade and high-tech manufacturing. In addition, although manufacturing has slowed overall, some redistribution is occurring and small manufacturing firms are now on the rise.

Suburban growth in New Scotland is likely to occur at an increased pace over the next two decades. Recent proposals indicate that area developers have begun to see New Scotland as an appropriate location for future suburban growth. Several large projects, to be supported by new private infrastructure, are being considered in the northeastern quadrant of Town. If infrastructure and development is placed in that area, New Scotland can anticipate gaining a good deal of population over the next twenty years.

The demographic character in Town will be influenced by several factors. The population, as a group, is growing older and household sizes are decreasing. Members of the 'baby boom' generation, and less significantly, their off-spring, continue to dominate the population.

Residential development will be influenced by these population trends. The market will be dominated by older buyers, who will be middle aged between 1990 and 2000, and in their 60s' around the year 2010. The demands for 'move-up' housing and adult communities will dictate home construction.

2. Recommended Land Use Regulations

Housing

Many of the issues identified throughout the proceeding text have ramifications on land development. Policy recommendations to address these issues follow.

a.) In anticipation of more persons middle aged or older and smaller household sizes, the following forms of development should be considered:

- Mixed use residential complexes which could contain health-care, recreation and or/commercial facilities (perhaps reviewed in the form of a Planned Unit Development);

- Higher density developments which require less outdoor maintenance.

- In-law type accessory apartment space, in existing single family zones.

b.) Although determining the cost of housing in New Scotland is beyond the scope of creative land development regulation, the cost of constructing new homes can be reduced by a municipal ordinance which permits certain cost saving measures including:

- Reduction of large lot size requirements in areas that can accommodate increased densities without negatively impacting the environment.

- Allowing the construction of townhomes, apartments and mixed density residential developments.

- Streamlined municipal development review procedure to reduce delays which add to development costs.

- Enabling the development of more rental housing by permitting two family residences, accessory apartments and multi-unit dwellings, in environmentally sound locations, with careful pre-development design review.

c.) Adjustments to the Town's land development regulations should not only address the community development issues discussed here, but also serve to preserve rural character and protect environmental resources:

- Regulatory mechanisms (open space set asides, cluster zoning, density transfers) which protect the Town's valuable natural resources, without excluding residential development, are recommended.

Neighborhood Commercial Facilities

d.) To attain the economic development objective of this Comprehensive Plan which seeks to provide residents with accessible neighborhood businesses, and to compliment the Town's primarily residential character, consideration should be given to:

- Permitting retail and service establishments in hamlet areas of New Scotland, Clarksville, New Salem and Feura Bush. As they are developed, these land use zones can be used to meet more of the retail and service needs of the existing population and create well balanced, mixed use, hamlet settings which is vital to their continuation as town centers. In addition, these land use zones would reserve space for future commercial growth in predetermined hamlet locations.

- A higher intensity commercial use category, that would allow a small shopping plaza, mini-mall, grocery store and related retail uses, is recommended in the New Scotland hamlet area. Development within this category could service Town residents and be available to meet the needs of future populations. Siting of this use category should be done carefully; major transportation corridors separate from, yet accessible to, existing or proposed residential populations are suggested (Intersection of 85 and 85A).

- Low density office use zoning, more intensive than that allowed as a home occupation, is recommended in hamlet areas. Higher intensity office space is suggested as an accompaniment to the higher intensity commercial uses described above. As such, higher intensity office space should be carefully sited at a few select locations, close to existing or proposed transportation corridors.

Light Industrial/Manufacturing

e.) Zoning lands for light industrial/manufacturing, warehouse or office facilities will address the economic development objectives of this Comprehensive Plan by ensuring that the Town maintains the potential to develop commerce and industry in the future.

- Light industrial, warehouse and office uses should be sited together on select, environmentally suitable land under a multi-use industrial park category. This land use category, termed a general business district, would provide flexibility for small manufacturing firms now on the rise.

Section VIII. Land Use Compatibility

The development of the comprehensive plan requires an analysis of the degree of compatibility one land use has with regards to other land uses. Uses that are compatible should be adjacent to one another where possible, just as incompatible uses should be buffered from one another with at least one other land use district whenever possible.

Table 8-1 shows the relationships between differing land use types in matrix format. The rational as to why these relationships have been classified as they are is outlined in the following section.

A. Low Density and Med/High Density Housing (1-2)

Low density housing and Med/High density housing are considered somewhat compatible land use types if there is some form of separation and/or buffer between them. Many successful examples exist where different types of housing are intermixed. There exist, however, extreme situations when these housing types are incompatible.

B. Low Density Housing and Light Industry/Manufacturing (1-3)

Most light industry such as corporate parks, assembly plants and High-Tech industries do not produce odors, noise and other hazardous situations. Today's industries often require large tracts of land for development of industrial parks. Associated with these parks are major increases in traffic flow and increased demand on public services. Low density housing and light industry/manufacturing are considered neutral with respect to one and other as the use, per se, is not in conflict with the housing type but some of the externalities such as traffic flow, visual quality and demand on utilities require mitigation.

C. Low Density Housing and Commercial Development (1-4)

Commercial uses range from corner mom and pop grocery stores to multi-acre commercial malls. New Scotland will not likely be targeted for a large mall in the near future due primarily to the lack of good access required for such a facility. What the Town can expect are proposals for small roadside malls of four or five stores and corner convenient stores. These smaller commercial developments are specifically geared to

suppling goods for a very localized area. With this type of commercial in mind, low density housing and commercial developments can usually be considered neutral as adjacent land uses. However, commercial types such as malls and strip developments would not be considered compatible with low density housing.

D. Low Density Housing and Agriculture (1-5)

Low density housing and agricultural activities are considered somewhat compatible. Both land use types are low density developments. Residential areas with children are not necessarily compatible with crop lands, particularly if they are unusually odorous or if children have access to fields, orchards and farm equipment.

E. Low Density Housing and Preserves/Parkland (1-6)

Low density housing and nature preserves or park lands are considered neutral for adjacency. Nature areas and nature parks are often found in environmentally delicate areas containing forests marsh lands or water bodies and steep slopes. All these ecosystems are in delicate balance and will not tolerate over use. Adjacency to low density housing falls in the neutral classification as agricultural land would have a lower impact where as commercial, medium and high density housing and industry would all have potentially larger impacts.

F. Low Density Housing and Town Parks/Recreation Areas (1-7)

Low density housing is considered compatible with Town parks and Recreation areas. The primary purpose of these types of facilities is to provide outdoor activity areas for local residents and as such need to be in close proximity to all residential areas. Town parks, unlike individual subdivision recreation facilities are for all the Town's residents use and therefore, should not be located within the confines of individual subdivisions..

G. Med/High Density Housing and Light Industry/Manufacturing (2-3)

Medium and high density housing types are usually geared towards meeting the housing needs of urban population centers. At most, the Town of New Scotland may need to supply sufficient area for attached townhouse and medium density apartment development. Light industry and manufacturing types (discussed in B), if serviced properly with adequate roads and utilities, would be somewhat compatible with this category of housing development.

H. Med/High Density Housing and Commercial (2-4)

Medium and higher density housing, over any other type of housing, requires close proximity to many varied forms of commercial ventures. These two development types are considered to be compatible.

I. Med/High Density Housing and Agriculture (2-5)

Agricultural practices are considered somewhat incompatible with this type of housing for the some reasons outlined in section 1-5. In addition to the potential for damage to crops and the liability associated with operating farm equipment, there are concerns about farm odors and potential conflicts with livestock.

J. Med/High Density Housing and Preserves/Parkland (2-6)

Medium and high density housing and nature preserves/environmentally unique park lands are considered incompatible. Dense housing can cause overuse of an area, which may detract physically and visually from the quality of neighboring land to be protected.

K. Med/High Density Housing and Town Parks/Recreation Areas (2-7)

Town parks and recreation areas are particularly needed in higher population districts. Not only are they compatible land uses but they must also be kept in balance with each other. Limited amounts of park space or recreational areas which cannot meet the demands of local residents may be worse than no space at all. This is due to the impossible task of maintaining an over-used facility. Decay often encourages further decay and vandalism.

L. Light Industry/Manufacturing and Commercial (3-4)

Light industry/manufacturing and commercial developments are considered somewhat compatible because both have similar impacts on the landscape. Industry often requires larger quantities of land than commercial development. Access to rail lines, rivers and highways is more of a critical issue. Commercial developments range from corner gas stations and food marts to department store malls. Therefore, commercial land uses may be situated in a wider variety of locations than industrial land uses.

M. Light Industry/Manufacturing and Agriculture (3-5)

The desired forms of Light industry and Manufacturing sought by the Town are essentially clean land uses with large buffer areas surrounding development zones. There are very few potential conflicts which could be anticipated between agricultural uses such as crop lands and orchards and light industrial uses. Agricultural uses with livestock and odors might pose image, traffic and olfactory conflicts. In general, however, these two land uses can be considered somewhat compatible.

N. Light Industry/Manufacturing and Preserves/Park land (3-6)

As with agricultural lands, clean industry and manufacturing pose minimal environmental problems when associated with nature preserves and environmentally unique park lands. Increased traffic volumes would most likely be the greatest environmental threat, however, industry with the potential for any form of pollution, whether designed or accidental, should be separated from critical environmental areas by at least one other land use or large buffer area. Under these circumstances, these two land uses may considered somewhat compatible.

O. Light Industry/Manufacturing and Town Parks/Recreation Areas (3-7)

Due to potential increases in traffic and the relationship between residential areas and town parks and recreation areas some conflicts might be anticipated between these land uses. A neutral classification best fits these uses as proper design can often mitigate potential conflicts.

P. Commercial and Agriculture (4-5)

Commercial ventures, as discussed previously, cover many different sizes of developments. In most instances commercial developments are small and have relatively low potentials for impacting the environment. Therefore, adjacency with agricultural uses is considered somewhat compatible.

Q. Commercial and Preserves/Parkland (4-6)

Commercial uses require external advertising, increase traffic volumes and increase noise levels in there immediate area. These characteristics are in contrast to the serenity and natural state most nature preserves and environmentally unique park lands were established to protect. Some commercial activities must be considered, however, to service the publics needs, when using park facilities. For these reasons the two land uses are considered somewhat incompatible and/or incompatible. If proposals are presented for such land use adjacencies all site design characteristics should be carefully studied to prevent conflicts.

R. Commercial and Town Parks/Recreation Areas (4-7)

Commercial developments except for large shopping centers and malls are somewhat compatible with Town parks and recreation facilities. Malls, however, increase traffic congestion, and pollution from auto air emissions, therefore as an overall classification commercial and Town park development is considered neutral for adjacency purposes.

S. Agriculture and Preserves/Parkland (5-6)

Agricultural land uses are of average to distinct visual quality, and are considered to have little impact on the environment. But farming does pose a threat to lakes and streams due to the pollution of water that may result from fertilizer and etc. that runs off fields and grazing lots. Therefore these uses are considered somewhat compatible.

T. Agriculture and Town Parks/Recreation Areas (5-7)

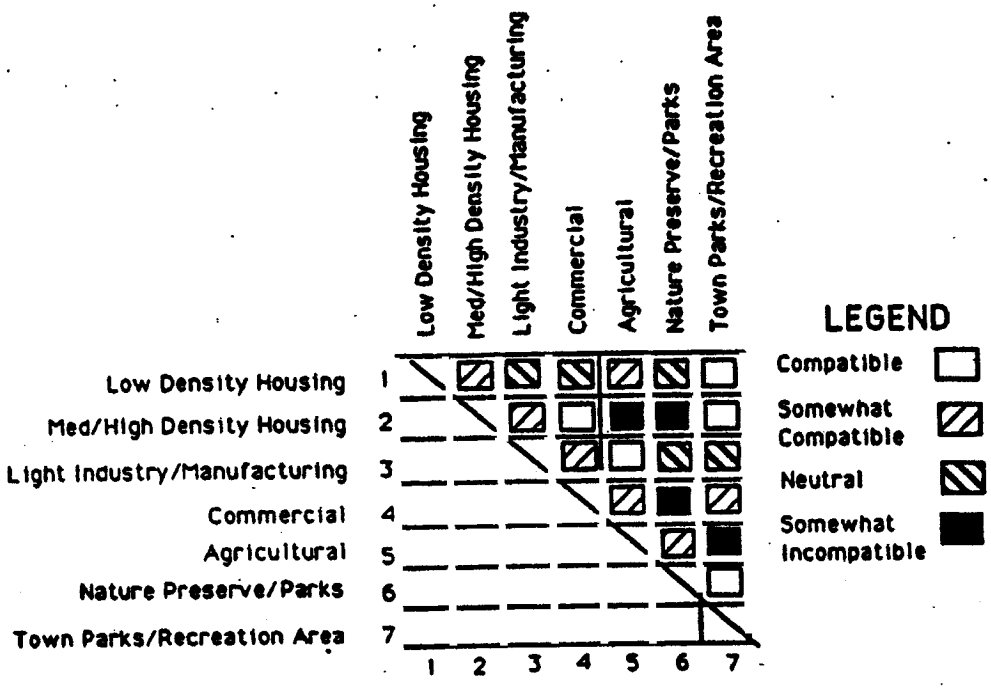
Whereas there are no major environmental conflicts between these two land uses, there do exist similar conflicts to those outlined in D and I. Compatibility for these two land uses really does depend on the size and type of Town facility involved. For planning purposes, though, a conservative approach must be used. For these reasons, these two land uses are considered somewhat incompatible.

U. Preserves/Parkland and Town Parks/Recreation (6-7)

Both of these land uses serve the public's need for recreation and preservation of local open space. As neither posses any direct threat to the other, they are compatible land uses.

Table 8-1

COMPATIBILITY MATRIX



Section IX. Evaluation of Existing Zoning Districts

When considering modifications to the Town's existing land use plan and zoning classifications, a comparison of existing zoning classifications to environmental considerations was drawn. The intent of this comparison was to identify disparities between the statement of purpose for each existing land use zone and the actual environmental conditions in each of these zones. This section has been prepared to guide the revision of land development zoning and subdivision ordinances. The recommendations made here are neither binding or inclusive.

The Town was divided into seven zoning districts when the first zoning ordinance was completed in 1981. These zones included: (RF)- Residential Forestry, (RA)- Residential Agriculture, (LDR)- Low Density Residential, (RH)- Residential Hamlet, (CH)- Commercial Hamlet, (COM)- Commercial, and (IND)- Industrial. The following evaluation of each land use zone identifies the purpose of the zone and recommends modifications based on the environmental analysis and Land Development Suitability Map (Figure 3-8) presented Section III and IV.

A. Industrial Zones (IND)

1. Purpose of Zoning District

Industrial zones were originally designed to allow for the establishment of industrial facilities, warehousing and related activities. Zone locations were recognized as requiring easy access with water and sewer service potential. In addition, consideration was given to potential conflicts with environmental limitations and the goals of the Town. A variety of types of manufacturing and offices are permitted, provided they are in keeping with the goals of the community.

2. Recommended Modifications

It was determined during the updating of the Comprehensive Land Use Plan, that standard industrial development was somewhat incompatible with the rural character in New Scotland. However, some form of light industrial/manufacturing uses were considered desirable uses. Therefore, it was determined that the industrial zoning classification needed to be redefined. In addition, the category might be renamed from 'Industrial' to 'General Business' to better reflect its light industrial intent.

Under the proposed category, heavy industrial uses which require extensive modification of a site would not be acceptable. Any light industrial/manufacturing uses which take away from the Town's rural character or diminish the environment would be unacceptable. The definition of light industry/manufacturing should be revised to restrict activities in industrial zones to uses involving manufacturing, packaging, assembly, merchandising, warehousing or distribution of finished products from previously prepared material. Processing of raw materials or salvaging operations would not be allowed.

3. Acceptable Development Zones

Light industrial/manufacturing uses were determined to be acceptable only in areas of the Town classified as having "minimal environmental restrictions". Additionally, these zones were considered to be undesirable within areas containing primary agricultural soils either within and/or outside of established Albany County agricultural districts or located within the limits of one of the Town's aquifers, aquifer recharge areas or reservoir recharge areas.

B. Commercial Zones (COM)

1. Purpose of Zoning District

Commercial zones were recognized as generally needing large areas sufficient to provide for a selection of stores and adequate parking. Commercial uses were considered intensive land uses[41], that is, they are generally not suited to locations with moderate to severe environmental limitations.

2. Recommended Modifications

Environmental constraints on much of the undeveloped lands within the Town, the potential costs associated with extensive municipal service expansion, the availability of regional commercial services in adjoining municipalities and the potential conflicts with the rural character of the Town of New Scotland, suggest that future commercial uses should be limited to those necessary to service the local needs of the Town's residents. Office uses may or may not be included in these uses, provided considerations are given to potential incompatibilities associated with allowing the mixing of such uses.

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[41] Intensive Land Uses are defined as uses which require considerable alteration to the existing natural environmental characteristics of the land. Impacts associated with intensive land uses include; potential for soil erosion, loss of soil permeability due to inclusion of large impervious surfaces, the requirement for substantial regrading and clearing of natural vegetation, and require public services beyond those typically necessary of low density residential uses.

Acceptable commercial uses are essential to the welfare of the residents of New Scotland. Allowable uses within the zone could be modified to exclude residential uses and large, regionally drawing commercial operations. Residential uses are in greater demand at this time and if lands suitable for future commercial development are not set aside the potential exists for residential development to completely consume this land thus precluding any needed future commercial development from locating in the Town.

Current standards for commercial ventures should be reconsidered to make allowances for municipal services while also limiting development to densities compatible with the environment.

3. Acceptable Development Zones

As with industrial zones, it was determined that commercial zones would not be compatible in areas containing critical environmental areas or moderate to severe environmental restrictions. Commercial zones within areas containing primary agricultural soils either within and/or outside of established "Albany County Agricultural Districts" were also considered not in keeping with the desire to maintain the Town's rural character. Commercial zones were, therefore, determined to be acceptable when located in areas ranging from minimal to moderate in environmental constraints.

C. Commercial Hamlet Zones (C-H)

1. Purpose of Zoning District

Commercial Hamlet zones were established to allow for and encourage small scale, neighborhood commercial enterprises to locate within the core areas of the Town's hamlets. The intent was to provide services and shopping opportunities to hamlet residents and visitors. The district was designed to promote the residential characteristics and shopping environment of a small village. Environmental constraints are not major issues to these districts due to the existing level of development.

2. Recommended Modifications

Small scale commercial zones within the existing hamlets allow for potential development at densities suitable to support public utilities such as water and sewer systems. Design and use requirements allow for the orderly transition of older residential areas along major traffic arteries to low-density, non-residential uses and special permits allow for consideration of some multifamily housing, appropriate for hamlet areas. These commercial hamlet zones, however, are the only locations in the Town where small scale commercial enterprises are allowed to mix with residential uses on a lot by lot basis.

New needs for commercial services have arisen since the first zoning regulations were implemented. Requests have been presented by both Town residents and developers to allow small convenient type store enterprises to locate within the Town. These enterprises are intended to supplement commercial services located in the hamlet and commercial zones. However under current zoning there is no provision for such commercial uses.

The Town could establish secondary commercial zones at major intersections and other strategic locations to accommodate small automobile oriented retail uses. Design requirements in these districts (perhaps labelled 'Neighborhood Commercial Zones') could be established which restrict size and number of contiguous structures to prevent creation of typical suburban strip development[42]. Allowable uses might include small convenient type food stores, gas facilities in connection with such stores, local hardware stores, branch banks and restaurants. Automobile intensive commercial uses, such as drive-in banks and fast food restaurants, should be carefully reviewed.

3. Acceptable Development Zones

Commercial-Hamlet zones, being located only within the limits of the Town's identified hamlets, were assumed exempt from environmental limitations analysis due to the existing level of development within the hamlet zones. On the other hand, Neighborhood Commercial Zones should be located only in areas suitable to support such facilities from an environmental standpoint. Based on the premise that the largest size for such a zone should be about thirty acres, the low density of this type of development, a 35% to 50% coverage limit and the stipulation that development not be allowed on slopes in excess of 15%, it was determined that this land use would be acceptable in all but critical environmental areas.

D. Residential Hamlet Zones (R-H)

1. Purpose of the Zoning District

Residential-Hamlet zones were intended to provide for higher density residential development adjacent to and compatible with the existing character of the Town's hamlets. The hamlets were identified as areas where higher density use would strengthen the Town's rural appearance by clearly establishing nodes of activity surrounded by rural landscape settings. Typically, these zones allow for small lot sizes with the provision of municipal water and sewer services adequate in size to support such densities.

2. Recommended Modifications

The intent of the Residential-Hamlet zone is to allow for higher density housing where appropriate within the Town. Assuming that higher density housing means more than simply smaller lot sizes for single family residents, consideration should be given to allowing "as-of-right" limited two-family and/or multi-family housing with site plan review. This housing should be restricted to designs which are compatible with neighboring development.

Additionally, where municipal services are not immediately anticipated or available, residential development adjacent to the existing hamlets might be required to incorporate cluster designs to maintain the necessary appearance of density needed to achieve the intent of the Residential-Hamlet zones.

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[42]The organizing principal of the Suburban strip is the highway, and development is largely geared for automobile convenience. Buildings are spatially separated and have a relatively low density due primarily to high parking ratios. Existing land uses are mixed and include residential, commercial retail and office. Some parcels are not yet developed. Historically, buildings have been of relatively inexpensive construction and lack widely recognized architectural or historical significance.

3. Acceptable Development Zones

It was determined to exclude Residential-Hamlet zoning in areas containing moderate to severe environmental restrictions or areas considered locally significant critical environmental areas. This decision was made due to the difficulty of servicing such areas, the potential environmental degradation which may be caused by residential development at hamlet densities in environmentally sensitive areas and the potential threat of diminishing, rather than enhancing, rural character.

E. Low Density Residential Zones (LDR)

i. Purpose of the Zoning District

Low-Density residential zones are designed to allow for residential densities in the range of 2/3 acre down to 1/2 acre lot sizes depending on the availability of municipal water and sewer supplies. Criteria for an LDR zone in the 1981 zoning ordinance included the following: "suitable soils and slopes for urban development; accessible to other population centers; feasible of being served with public water and sewer and generally found outside the prime agricultural area."

2. Recommended Modifications

It has been determined that smaller lot residential zoning in the Town was necessary. However, current LDR zone densities if 2/3 and 1/2 acre may not be environmentally safe or appropriate where municipal services are not present and/or where primary aquifer recharge areas or areas containing primary agricultural soils exist.

The current LDR zoning allows lot sizes which are too small for environmental conditions. Therefore, the minimum lot sizes in transitional residential zones should be increased, particularly where these zones act as transitional areas between agricultural zones and hamlets.

3. Acceptable Development Zones

It was determined to exclude LDR zones from areas with moderate to severe and critical environmental conditions. LDR densities might be allowed in areas with minimal to moderate environmental constraints, provided municipal services are available or special permit conditions are met.

LDR zones should act as transition zones between Residential-Hamlet zones and Residential-Agricultural zones. Residential-Agricultural zones should act as transition zones between Residential-Forestry zones and Conservation zones where possible.

LDR zones might also be included in portions of the Town with minimal environmental limitations to provide the densities necessary for lower cost housing. This would be contingent upon insuring that such areas are not needed for ground water recharge and are not considered primary agricultural lands.

Additionally, LDR densities are considered acceptable in areas of minimal environmental restriction provided aquifer and/or reservoir rechar

F. Residential-Agricultural Zones (R-A)

1. Purpose of the Zoning District

Residential-Agricultural zones were originally established to provide for low density residential settings amongst agricultural uses. This was designed to accommodate residential construction at low densities for people who wish to live in a rural atmosphere. Stipulation was made that this form of development not interfere with prime agricultural areas. The continuation of forestry and agricultural activities and low intensity uses were to be the predominant land use types. Generally speaking, the zone is intended to reserve agricultural lands within the Town, encourage continuation of agricultural practices and preserve open space character while allowing for growth of the residential market.

2. Proposed Modifications

Certain conditions have counteracted the original intent of this zoning classification. These include small lot sizes (half acre and one acre lot sizes are currently (1993) permitted in these zones depending on the availability of municipal water and sewer), lack of authority to require protection of primary agricultural soils, and lack of reference to the importance of open agricultural lands.

To achieve the original intent of the Residential Agricultural zone, it is recommended that agricultural lands with soils classified as primary and secondary be protected by zoning regulations which require preservation of agricultural lands to the greatest extent possible. A pro-active approach is recommended to provide areas where farming can safely continue without conflicts with residential developments. Innovative site designs such as average density development (also known as cluster development[43]) and other open space preservation techniques should be applied in these areas.

3. Acceptable Development Zones

When evaluating the existing rural agricultural zoning districts it was determined that, from strictly an environmental standpoint, that lot sizes of one acre or less would not be acceptable in areas with moderate to severe environmental limitations. This determination was made due to lack of adequate water supplies, poor soil conditions, susceptibility to landslides and areas with bedrock formations at or near the surface found in these areas. Based on existing conditions and the intent of the district, i.e. farm preservation, it is recommended that density in these zones be scaled back where farming is prevalent and prime agricultural soils exist.

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[43] A cluster development is a modified residential subdivision consisting of detached single-family homes with each dwelling located on an individual lot smaller than the required zone lot size. The size of individual lots would be reduced and development 'clustered' together in one area. Permanent open space equal to the difference between the lot size required by zoning and the reduced lot size would be provided as part of the development. The the overall density of the development would be in compliance with the prevailing district regulations.

G. Residential Forestry Zones (R-F)

1. Purpose of the Zoning District

Residential Forestry zones were established in portions of the Town where soils and slopes were not desirable for agricultural use or, were considered less desirable for intensive land uses than those found in the Residential-Agricultural and Low Density Residential zones. The intended land uses for this zone included forest management, agricultural production where practical, single family homes, outdoor recreational activities, and other low density uses.

The purpose of the zone was to preserve land for non-intensive uses and retain rural character.

2. Recommended Modifications

The land areas currently classified as Residential-Forestry zones contain some of the most environmentally sensitive lands in the Town as well as some of the most visually significant lands. Over development of these lands can lead to numerous health and safety problems, as well as greatly diminish the open-space character that gives New Scotland its identity.

Areas with bedrock out-croppings and severe slopes should be excluded from residential uses. Other areas, where water supply potentials are minimal and soil conditions severely limit on site septic system development, will require larger lots.

Consideration should be given to creating at least two zones to accommodate forest areas. One zone could include critical environmental areas and be known as a Resource Conservation District (R-C). The purpose of the zone would be to protect fragile ecological systems, vulnerable areas and areas of unique natural and scenic value. Any development or use that would adversely affect water quality, productive or unique wildlife and aquatic habitat, biotic systems, ecological relationships or scenic and natural values or which would create unreasonable risks to the public safety and welfare due to flooding, earth movement or slides or unstable soil conditions would be excluded. Permitted land uses might include: 1.) Public or private facilities for non-intensive outdoor recreation; 2.) Limited forest management and timber harvesting activities; 3.) Agriculture; 4.) Preservation of historic areas; 5.) Emergency and fire protection activities; 6.) Bridges and public roadways; 7.) Accessory buildings or uses.

A second additional zone might simply include those areas where soil and bedrock conditions, as well as vegetative cover, suggest larger residential lot sizes. It might be advisable to provide the Planning Board with the discretion to require mandatory single family cluster development in such locations.

iii. Acceptable Development Zones

Residential-Forestry activities, being the least intensive land use in the Town, were considered to be the only land uses compatible with the critical environmental areas identified in Section III, provided the modifications mentioned above are implemented. Areas with mature forest stands not identified as being suitable for agricultural production, are considered the best areas for inclusion in the Residential-Forestry District.

Section X. Recommendations and Implementation Measures

A long range approach to guide land use policy in the Town of New Scotland is put forth in this chapter. Based on the goals of the this plan, the approach suggests land use regulation, public improvements and other municipal actions to shape the Town of New Scotland in the future.

This comprehensive plan approach is presented in three parts: a series of specific recommendations addressing issues relevant to the goals of this plan; an overall design concept or, "theme", for Town-wide development; and proposed development guidelines.

The revised Comprehensive Land Use Plan outlines a program to provide orderly growth, while retaining and fortifying the basic character of the community. The Plan accomplishes this by suggesting initiatives to preserve environmental and cultural resources in appropriate areas, while designating other areas for more intensive development.

The plan is to be implemented through day to day incremental actions. The recommendations presented here are to serve as a frame of reference against which to measure short-term actions, such as zoning, spending and municipal service adjustments, as well as to guide other long range planning studies such as capital improvement programs and roadway expansion and maintenance programs. Although re-examination of policies presented here will be required as technology, population and real estate trends change, this Comprehensive Plan revision is intended to effect land use policy in New Scotland for the next 20 year period.

A. Planning Goals, Issues Identified and Recommended Actions

Throughout the planning process pressing issues impacting the physical landscape in the Town of New Scotland have been identified. To address these issues, numerous policy responses have been suggested and evaluated for their legality and appropriateness. The results of this process are presented below. Recommended actions in response to issues identified during the planning process are presented in a format which relates both the issue and the response to one of the initial planning goals (Town Character and Environment, Economic Development, Infrastructure and Community Facilities, Land Use and Development, and Housing).

GOAL: TOWN CHARACTER AND ENVIRONMENT

PROTECT AND ENHANCE THE CURRENT TOWN CHARACTER AND HIGH QUALITY ENVIRONMENT WHILE ACCOMMODATING A MIX OF RESIDENTIAL, COMMERCIAL, LIGHT INDUSTRIAL/MANUFACTURING, AGRICULTURAL AND OFFICE USES.

a. Issue: Residents perceive a loss of open space and desire to have open spaces preserved. (Section I)

a. Recommendations:

Encourage development mechanisms that promote open space preservation:

1. Allow average density development (grouping development on one portion of a land parcel with the rest of the parcel set aside as open space) by option of the developer subject to special permit by the Planning Board in all residential zones, and provide the Planning Board with the power and guidance to require average density development in large lot residential and environmentally sensitive areas, when the technique will preserve a natural resource or scenic vista, thought to contribute to the general welfare of Town residents.

2. Develop a Townwide open space plan which outlines areas where open space should be set aside during the subdivision process. Ensure that acceptable arrangement for ownership and maintenance have been made during the subdivision review process (see #3 and 4).

3. Investigate establishing an entity or mechanism, such as a municipally sponsored park district, or cultivate ties with a land trust, to accept land donations from private developers and manage public open spaces.

4. Review long term maintenance arrangements before permitting new residential developments to ensure that open spaces and facilities will be maintained into the future. In the case of shared open space as part of a private development, the responsibility for facilities and land should be assigned to an identifiable entity, whether a single private owner, in the case of a traditional subdivision, or a homeowners or condominium association, cooperative development, or a public body, such as the Town of New Scotland which might receive land or infrastructure through a dedication.

Provisions for ownership and maintenance of common open space in a development are usually contained within municipal subdivision regulations. Open space ownership and maintenance procedures are reviewed by the Planning Board in conjunction with subdivision review, prior to granting a permit. It may be appropriate to also include such information under site plan review for projects which do not involve subdivision of land.

Common open space is generally regulated in three areas: acceptable forms of ownership; maintenance standards; and long term use. Many ordinances also take steps to ensure easy enforcement of maintenance standards.

b. Issue: Farmers are particularly concerned about the loss of farmland. (Section I)

b. Recommendation:

Use zoning and other land use mechanisms to discourage inappropriate subdivisions and residential uses within land areas of high agricultural value and where there are many operating farms. Such zones can focus development to areas where impact to agricultural activity will be minimized, perhaps by using an average density concept to allow for small splits of land while keeping overall density above 3 units/acre. Flexibility should be provided to allow owners of large parcels to subdivide off a few single lots, provided excessive one lot subdivisions do not adversely impact agricultural uses.

c. Issue: The Normanskill, which lies in the northeastern corner of Town, the Helderberg Escarpment and other critical environmental areas have been recognized as a scenic and valuable environmental area.

c. Recommendation:

The Normanskill should be protected utilizing flexible zoning techniques. At minimum, mandatory cluster provisions should be applied to achieve the goal of preserving open space around the Normanskill area. Any open space in an approved cluster should be located on the riverfront. In addition, the Town can make it known that it would be willing to accept land donations from private developments in these areas.

In order to further protect the Normanskill area and create public openspace in the process, the Town could require clustering of buildings, investigate offering a "bonus" to developers who in exchange would designate riverfront land as open space for public use. In the current legal climate, this could be accomplished by drafting an 'open space area plan' which outlines the Normanskill area and designates where an open space corridor is to be established. This plan would also delineate public access points to the land.

In accordance with a ratified open space plan, an overlay district could be established by ordinance. As part of the subdivision review process for land being developed in the Normanskill district, riverfront open space would have to be set aside for public use as delineated in the plan. In exchange for the set aside, private owners might be granted an increase in density, or another form of land development "bonus" (i.e. some relaxation of subdivision or zoning requirements subject to Town approval). The Town could volunteer to manage or accept a donation of the public open space resulting from the imposition of the overlay zone requirements.

There are benefits and costs to the two scenarios to preserve the Normanskill presented above. The advantages of the first option, making cluster development mandatory, is its ease of implementation. It would require minimal study, except as required to determine where mandatory clusters should be applied. However, because it does not impose a bonus for a set aside of 'public open space', the mandatory cluster method might not result in much public open space around the riverfront. Private open space might be the predominant result.

The benefit of the second method, where land is set aside for public use as a development exaction, is that the Town can designate a specific area and create a coordinated greenway around the Normanskill, without precluding development in the area. The negative side of the endeavor is that just as the overlay zone will result in more for the community, it will also require more upfront work: study and evaluation of the area, drafting and adopting a plan, consistent administration by the Planning Board, and maintenance of the dedicated lands.

GOAL: ECONOMIC DEVELOPMENT

IMPROVE THE LOCAL ECONOMY AND TAX BASE BY ENCOURAGING ECONOMIC DEVELOPMENT AND EXPANDING CLEAN LIGHT INDUSTRIAL/MANUFACTURING, COMMERCIAL AND OFFICE ACTIVITIES AND JOBS IN BALANCE WITH NEW SCOTLAND'S EXISTING CHARACTER.

a. Issue: New Scotland has few industries, offices or retail establishments. (Section V)

a. Recommendation:

Zone suitable lands for commercial, office and light industrial/manufacturing uses in accordance with the traditional rural character of the Town.

The Town should consider initiating economic development activities. The municipal government can encourage appropriate industries and businesses to locate in New Scotland by spreading information about the availability of development sites to the Albany Colonie Chamber of Commerce, Center for Economic Growth, Albany County Industrial Development Agency and New York State Department of Economic Development. These organizations have regular contact with firms seeking to locate in the area and with others involved in business development. As it is often more important that someone is motivated to do something than that economic forces are in the community's favor, the most basic component of the Town's economic development strategy should be to continually identify any opportunities for business development and work with those interests.

The regional and state economic development agencies mentioned above can also serve the Town by providing preliminary information on municipal initiatives to attract business enterprise. In many cases they can provide more detailed technical assistance to 'package' a particular site, or, as appropriate, link the Town to a regional endeavor. In addition, these offices can assist the Town in drafting a local economic development program.

Another step to facilitate business development is to form a committee, council or corporation as a vehicle to initiate and carry-out business development activities. Ideally the group would consist of members who bring the respect, resources and knowledge of business, real estate, finance and government. This group could serve the Town by advising on business development policy.

The group, in a cooperative effort with Town Staff and its consultants, might begin by developing a local economic development program which loosely defines objectives, identifies potential development sites, and describes mechanisms (within the Town's ability) to promote business development.

Opportunities for development on certain sites may be identified by inventorying the general business zone. The comprehensive plan has identified vacant lands which possess natural conditions suitable for light manufacturing/industrial development, but it has not inventoried individual parcels within the suitable areas for their development potential. Such an inventory could gather information on individual parcels' environmental suitability, infrastructure and services. The inventory could be used to identify areas where developable sites are concentrated and where there are isolated attractive parcels.

The inventory should provide insight about vacant sites, and from that information, indications as to which businesses are appropriate might be suggested. The types of industries or businesses identified as appropriate can be targeted by future business development activities.

In the business development plan, the Town, or Economic Development Committee, can seek to identify factors which detract from the competitive advantage of sites within the Town, as compared to sites in neighboring municipalities. Such disadvantages might include absence of infrastructure or unaccommodating land features. With technical assistance from state, regional and/or local economic development offices, the Town can develop strategies to alleviate noncompetitive conditions, and by doing so, create attractive development sites. Such strategies might include land purchases, public private cooperative efforts, construction of infrastructure, supplying low interest financing or creative municipal tax policies.

GOAL: INFRASTRUCTURE AND COMMUNITY FACILITIES

ADMINISTER SANITATION, PUBLIC UTILITY, EDUCATION, RECREATION, WATER AND OTHER PUBLIC SERVICES EFFICIENTLY.

a. Issue: New development will increase Town population and consume open land areas. More residents will increase the use of public facilities.

a. Recommendation:

In conjunction with an investigation of the need for additional built park facilities, and in order to further the open space goals which are at the heart of this comprehensive plan, it is suggested that an "open space plan" be drafted and adopted. The purpose of this plan would be to identify the location of future parks, trails and greenways, to determine what land should be acquired by the municipality, and where land should be set aside by private developments.

Based on the plan, the Town of New Scotland could acquire certain land and develop a criteria for accepting land dedications in conformance with the plan. Similarly, a policy allowing fees in lieu of open space could be better defined.

The northeastern area is particularly well suited as the subject of an open space plan. The area which is otherwise proposed for zoning at slightly higher residential densities, possesses a designated environmental resource area, the Five Rivers State Environmental Education Center, and an area proposed for preservation, the Normans Kill. These two areas could serve as perfect north and south anchors of a greenway through the Town's northeast.

b. Issue: Increased population will increase the use of public facilities. (Section IV)

b. Recommendation:

Evaluate the condition and capacity of existing Town facilities in an annual capital improvements program. A capital improvements program is recommended to prescribe realistic, agreed upon goals and tangible annual tasks. The program can assess the impact of incremental development on existing facilities, and lay the groundwork to mitigate any negative fiscal impact of new development.

An effective capital improvement program (CIP) can have many benefits. Specifically, a CIP can ensure that actions recommended in the Master Plan are carried out. In addition, capital programming can schedule public improvements that require more than one year to construct, provide for long range financial planning and management and, through careful debt management, facilitate stable annual property taxes.

A phased capital improvements program is created based on the fiscal analysis and facility inventory. The fiscal analysis inventories municipal revenues and operating costs to produce budget projections for the term of the Capital Improvement Program. To complete the process, Town officials and administrators evaluate alternate fiscal schemes and set short-term (5 to 10 year) fiscal policies which allot funds for capital improvements.

Coinciding with a fiscal analysis, the programming process identifies capital improvements needed at various facilities and assigns estimated costs to those improvements. The Town must then establish a rating system to compare alternate projects and prioritize capital improvements.

Based on the financial ability gauged by the fiscal analysis, the Town can decide which improvements can be undertaken over the term of the CIP, and which improvements will have to wait until the next CIP period, or be financed with other means.

GOAL: LAND USE AND DEVELOPMENT

PROMOTE A PATTERN OF LAND USE WHICH PROVIDES SUFFICIENT SPACE FOR THE ACTIVITIES OF TOWN RESIDENTS, SUPPORTS THE EFFICIENT DELIVERY OF SERVICES AND PROTECTS EXISTING NEIGHBORHOODS.

a. Issue: Farmers are both concerned about loss of prime agricultural land and being restricted from selling small portions of their land to gain additional revenue to keep farms solvent.

a. Recommendation:

Existing large lot sizes may be maintained provided mechanisms are provided to allow an owner to subdivide off a limited number of smaller lots per large parcel of land.

b. Issue: Preserve and enhance Town hamlets as the focus of development in rural Town areas.

b. Recommendation:

Designate Clarksville, Feura Bush, New Scotland, New Salem and Unionville as Town center areas and preserve and foster the traditional development pattern in these zones with land use regulations which allow for residential lots at higher densities, mixed use structures, offices and commercial establishments. Development in these centers is intended to taper out at progressively lower densities until densities blend with the rural residential character of outlying areas. Infrastructure and other improvements must be added, along with new development, to support development at higher densities.

c. Issue: Residential development may tend to spread along existing roadways. This tendency of development will detract from rural character by eliminating uninterrupted open space and interfering with significant views.

c. Recommendation:

Require large setbacks for development on existing Town, County and State roads.

Where feasible require that development be oriented off existing roads with internal automobile circulation systems.

Require buffer strips and landscaping consistently along roads and limit curb cuts to maintain rural town road character.

d. Issue: Senior citizens will be a larger percentage of the regional population in the next two decades. (Section V)

d. Recommendation:

The Town should remain aware of the presence of senior citizens in the community and be sensitive to identifying their unmet needs as they arise. Such needs may include the need for handicapped facilities and residences beyond that being supplied by the private real estate market, or the need for addition services such as meals on wheels or visiting nursing services.

e. Issue: Several Town roads are of substandard dimension, specifically, as discussed at length in Section VI. Transportation, Water and Sewer Facilities, many are too narrow or lacking shoulders of proper width.(Section VI)

e. Recommendation:

The roads in Town should be evaluated to determine priorities for improvement, and where possible, as many of the deficient roadways identified in Section VI, should be widened to sixteen feet minimum and provided with two foot shoulders.

f. Issue: Revenue sources have not been identified to finance construction of new roads previously identified in various transportation studies (Section VI).

f. Recommendation:

Participate in proposed efforts with Albany County, Bethlehem and Guilderland to identify roads near the eastern border of the Town adversely impacted by development, and investigate, in cooperation with other participants, developing an infrastructure impact fee system to finance roadway improvements required by new development.

g. Issue: The Town's roadway network will need to be maintained and improved in the future. (Section VI)

g. Recommendation:

Building on the base information supplied in this Comprehensive Land Use Plan, a Roadway Capital Improvements Plan should be completed. Such a plan would resemble a Capital Improvements Program only it would apply only to roads. A Roadway Plan is discussed at length in Section VI.

GOAL: HOUSING

PROVIDE OPPORTUNITIES SO THAT A RANGE OF CHOICES FOR SAFE AND AFFORDABLE HOUSING ARE AVAILABLE FOR TOWN RESIDENTS.

a. Issue: The Town of New Scotland's housing stock is comprised almost solely of owner occupied single family detached dwellings. There is little diversity in housing type and minimal rental housing. (Section V)

a. Recommendations:

Provide for the development and maintenance of diverse housing types and mixed use complexes in the Town zoning ordinance.

Permit two family residences and accessory apartments in hamlet areas, and select residential zones.

Permit housing units as accessory uses in mixed use office/residential zones in New Salem, Clarksville, Feura Bush and New Scotland. Review appropriateness for such mixed uses in Unionville.

b. Issue: Homes in Town have become more costly over the decade. Given the combination of a housing stock comprised almost solely of single family homes, and housing inflation, new residents of the community would be limited to households with incomes capable of supporting current single family home costs. (Section V)

b. Recommendations:

Promote rental housing by allowing two family and mixed use structures in hamlets and higher density residential zones.

Using zoning, promote construction of smaller units with less land acreage in hamlet areas, and enable innovative mixed density development utilizing average density development and other progressive techniques. Denser developments on less land, such as those created in an average density development, incorporate smaller dwelling units and require less infrastructure (i.e. roadway, sidewalks) per unit than the detached single family housing currently being built on larger lots (of 1 acre or more). Developments of this nature tend to be less expensive to construct. While there is no guarantee that these savings will be passed on to the consumer, the option to produce and sell lower cost housing is preserved.

c. Issue: Over the next two decades the regional market will include a proportionately larger group of buyers seeking move up housing and/or adult communities with additional services. (Section V)

c. Recommendations:

Allow mixed use residential complexes in residential zones. Define mixed use residential development as a land use where housing is primary and health-care, recreational and/or commercial space serve as accessory complimentary uses.

Establish zoning and subdivision review procedures for proposals involving shared open space and community facilities. Such regulations need to make provision for maintenance of shared facilities.

f. Issue: Over the next two decades more persons than ever before will be over the age of 60. The needs of this generation will require new forms of services in the Town. (Section V)

f. Recommendation:

Provide careful site plan review to assure that constructed amenities are suitable for the elderly and/or disabled when appropriate.

In order to provide a diverse housing option for elderly residents, or for residents seeking to assist their elderly or handicapped family members, the Town can allow temporary apartments designated for elderly and or handicapped family members by special permit in single family zones. Termed "Echo" housing, when contained in a separate structure, accessory housing units can provide housing to family members (by blood, marriage or adoption) over a certain age, or unable to live independently because of a disability.

Echo type housing can be allowed in a separate new structure, subject to material and design standards adopted by the Town, in a converted existing structure, or inside a single family home. Typically an echo housing unit has a special design tailored to the individual it is intended to serve (i.e. handicapped facilities such as ramps, bathbars and etc.).

Approval of echo units is generally contingent upon a deed covenant which states that the unit will be removed and the use terminated upon sale of the property or when the unit is no longer used for the purpose it was intended, i.e. to house an elderly or disabled family member, it converts back to its previous purpose.

B. Land Use Design Concepts

In the 1990's New Scotland Town policy makers are confronting development pressures impacting the entire expanding Capital District. The sentiment expressed early in the process by Town residents emphasized desire to maintain Town rural character into the future. As the process continued it became apparent that other residents would like to see more development with minimal influence by Town government.

A long range view has been developed in response to these community sentiments. Based on professional land use principals, three central design concepts are proposed to manage growth, while preserving traditional town character. The first concept relates to the Town's original development pattern. Under this pattern, buildings were clustered together to form town centers, referred to today as hamlets. In the early period of town growth, these development centers were separated from each other by open fields and forests.

The first design concept is intended to re-establish town hamlets as the focus of development. To a reasonable extent, construction of new development will be encouraged to locate within or near existing hamlet areas in the Town of New Scotland. Redefinition of hamlet limits will provide suitable open lands to accommodate future growth.

The second design concept deals with lands less suitable for development, lying outside designated hamlet areas and away from identified growth areas (including lands lying adjacent to the City of Albany and Towns of Guilderland and Bethlehem). These areas should be developed at rural densities with agricultural, forest management, recreational and residential land uses. Scenic areas and areas with environmental limitations should be preserved where possible. In the case of agricultural lands, lands unsuitable for development or lands possessing an outstanding natural resources, particular care should be taken to ensure that these lands can continue to be used for agriculture, forest management or recreation purposes.

The third design concept involves the northeastern quarter of the Town. This area roughly includes all lands between the North and East borders of the Town, Route 85 to the south and Swift Road and the Village of Voorheesville limits to the West. The area contains lands with some of the best environmental conditions for development, including ample ground water resources, reasonably good soil conditions and the potential for feasible economic development of municipal water and sewer facilities in addition the area includes the Normanskill Valley, an environmentally sensitive area. The area is presently experiencing the greatest development pressures from the expanding City of Albany environment. This is a condition that is anticipated to continue into the future. As such, a pro-active rather than reactive approach to accommodating future development will be necessary to promote maintenance of rural character.

1. Development Centers

Appropriate centers of development are already established in the Town of New Scotland. New Salem, Feura Bush, Unionville, Clarksville and New Scotland have historically served as major crossroads and centers for activity. This is evidenced by denser development in these hamlet areas and the number of public buildings and churches.

If these centers are to continue to attract development at densities and uses in line with the traditional development pattern, zoning must be provided to allow mixed use buildings and denser residential development within and adjacent to these hamlets.. By providing areas which accommodate development on relatively small lots, these centers should help to alleviate development pressures facing rural areas and ensure that the Town's land use regulations are not overly restrictive.

These areas should act as human service centers. Elements such as libraries, post offices, churches and municipal buildings should be encouraged to develop in the hamlet districts. Other allowable uses should include neighborhood convenient stores, medical offices, small shops, perhaps including small clothing stores and drugstores. Elderly, multifamily and apartment style housing is also acceptable in hamlet areas.

Development is intended to taper out from the hamlet centers at progressively lower densities until densities blend with the rural agricultural/residential character of outlying areas. Continued development of limited municipal water and sewer infrastructure is recommended to make these areas attractive to residential and local commercial development.

2. Outlying Areas

Many New Scotland residents have pinpointed open space preservation, particularly preservation of farm land and of the Helderberg Escarpment, as priority of land regulation in Town. Farmers have expressed concern over complaints from new residents about farming activities and are concerned that those complaints might lead to over regulation of their acitivties. The negative impacts of development on rural open space can be minimized through a design criteria which restricts development along main roads and promotes open space. Adverse visual effects of residential development along main roads can be reduced by use of design standards which limit access points along main roads, mandate large front yard set backs and require landscaping and buffer strips. Creative land-use mechanisms which protect environmentally sensitive areas and encourage open space are recommended for inclusion in Town zoning and subdivision regulation.

Agriculture and forested lands should be protected by zoning which encourages continuation of farming and forestry management while discouraging creation of large scale residential subdivisions.

Environmentally sensitive areas such as lands surrounding the Five Rivers State Environmental Education Center, Vly Creek, Onesquethaw Creek, Black Creek State Wildlife Management Area and the environmentally sensitive, visually significant areas of the Helderberg Escarpment should be protected. Resource Conservation measures required under overlay zoning put forth in Section C to provide this protection.

3. Northeast Quadrant

The northeast quadrant, including the hamlet of New Scotland, more than any other area in the Town, is appropriate for residential development. Its soils, transportation linkages and proximity to the City of Albany have made it a naturally attractive site for development. The private market has responded by expressing interest and proposing to develop land in this portion of the Town.

Innovative approaches are proposed for this area to ensure that open space and the preservation of environmentally sensitive features are incorporated as an integral part of this expanding residential area. Employment and commercial services will be appropriate accessory activities to create a well balanced community area. While it is recognized that residential development is suitable for the area at moderate to high densities, if municipal services are provided, visual quality, traffic management, environmental quality and rural character should be promoted.

Limitations on clearing of forest cover, control over new road cuts and driveway access, as well as buffer standards, are specifically intended to mitigate suburban development conditions which contrast rural character. Required open space requirements, planning to incorporate "greenway" concepts, recommendations for improving traffic impacts and considerations for other municipal services are proposed. These tools can be used to promote growth that is sensitive to environmental conditions and the Town's rural character.

C. Comprehensive Land Use Plan Map and Proposed Density Classifications

One key feature of a comprehensive land use plan is the identification of land use districts which prescribe suitable land uses for different areas. These land uses are based on the concept for future development created by the Planning Board in response to residents opinion.

The following land use densities are suggested based on the conclusions drawn in each of the preceding sections of this plan and the theme presented in the previous section. Eight base districts and 2 overlay districts are proposed.

Residential Hamlet and Commercial Hamlet densities are intended to encourage and protect existing hamlets in the Town. Low density areas are recommended to encourage agricultural activities, preserve rural character and protect environmentally sensitive outlying areas. Moderate density areas will allow more suburban type growth in the northeastern quadrant and other appropriate areas of the Town. Commercial and light industrial density will provide for the development of commerce and industry in the Town.

1. DEVELOPMENT CENTERS

a. Residential Hamlet Areas

Residential Hamlet Areas are the ideal locations for denser, mixed residential developments, apartments, townhouses and the likes. Mixed density developments may include any development proposing a mixture of detached single - family dwellings, attached two family dwellings and multifamily dwellings with less than five units per structure. Multiple dwelling units should not be allowed to constitute more than sixty percent of the total number of units in a development thus avoiding dominance of a particular residential character in any area. Mandatory open space requirements should be imposed on any mixed residential development that exceeds three units. This open space needs to be contiguous and usable for playgrounds and the use of the developments residents (see open space requirements previously discussed). Such land does not need to be municipally owned, rather it may be controlled through a homeowners association or similar maintenance structure.

b. Commercial Hamlet Areas

Within the core of hamlet areas, small scale, neighborhood commercial enterprises should be encouraged to locate. The intent is to provide services and shopping opportunities to the residents of the hamlets and other visitors. This is intended to promote the shopping environment of a small village conducive to traditional hamlet residential characteristics.

Appropriate uses would include neighborhood grocery stores, banks, beauty and barber shops, and eating and drinking establishments. Mixed uses, such as a building containing offices on one level and residences on another, may also be appropriate. Residential uses should be allowed, however, they should not overshadow the commercial character of the area. Site plan review requirements should be specified for all new development or modification of existing structures. Those uses which may require special conditions placed upon their operation should be reviewed under special permit procedures.

Development along (and close to) existing roads is appropriate. Design elements should include shallow building setbacks, street furnishings, sidewalks and street tree plantings. Infrastructure, including water and sewer facilities, should be considered by the Town Board to help mitigate any potential environmental problems associated with development.

c. Residential Density

Moderate to high density areas are intended to accommodate residential development adjacent to Hamlet Districts, and in other environmentally suitable areas. Densities and other design requirements should be compatible with environmental conditions and ensure preservation of rural character, while accommodating new residential development.

Land within these areas possesses environmental restrictions which range from minimal to moderate. Limited areas have severely restrictive environmental features. Densities in these areas should be determined accordingly.

Single family detached, multi-family and mixed density residential developments should be encouraged. In addition, average density development should be promoted and/or required as deemed appropriate by the Town Planning Board. Residential development, if encouraged to cluster around community open space, will provide a rural appearance to areas where community open space will be most visually and culturally significant.

The use of community wastewater disposal systems should also be explored. The construction of attached multifamily units should only be permitted if the development is serviced by a community wastewater disposal system (i.e. system serving only the proposed development) or a municipal sewerage disposal system.

2. OUTLYING AREAS

a. Low to Moderate Density Areas

Low to moderate density areas include most of the Town lands with prime agricultural value for farming. Land use regulations proposed for these areas should seek to encourage continuation of agricultural activities by protecting them from encroachment of incompatible uses. The preservation of the rural agricultural character of the town also weighs heavily on allowable development in these areas.

Much of the low to moderate density areas lie within designated State Agricultural Districts. Being designated as such imposes the following benefits and constraints on development:

1. land will be assessed only for its agricultural pursuits unless it is converted into a non-agricultural use. The State Board of Equalization and Assessment establishes the proper "agricultural value";

2. local governments are restricted from enacting local laws which would unreasonably restrict or regulate farm structures or practices within the district;

3. the exercise of the power of eminent domain by the State or local government is considerably restricted;

4. no special public service districts for sewer, water, lighting, or non-agricultural drainage purposes may impose benefit assessments or ad valorem levies on land used for agricultural production when located within an agricultural district; and

6. a penalty for the conversion of land within the district from agricultural use to any other use is stipulated in the law.

In addition, any other land parcel located outside an established State Agricultural District of ten acres or more in size, can receive a special assessment under the law- in return for being committed to agriculture for a period of eight years. Land registered under this program will be assessed at the same rate as lands in agricultural districts. The lower tax assessment is an incentive for farmland preservation.

Environmental considerations for the low to moderate density area include soils which are almost entirely classified as primary and secondary agricultural quality. Primary soils have high fertility, adequate drainage, adequate depth to bedrock and gradual slopes. Secondary soils are high yielding when properly drained and are without significant areas with sever slope, surface bedrock, soil and slope instability including slippage or erodibility and have limited flooding potentials[44]. Water supply potentials in the low to moderate density area range from generally good to low yielding, but most is suitable for irrigation and livestock water supplies,

Appropriate land uses for these areas include agricultural uses (gardening and farming of field crops, row crops, orchards, truck gardens, plant nurseries, pastures and fields); keeping of farm animals, poultry, and other domestic animals; farm stands for the retail sales of farm products produced on the premises; farm dwellings; forest management activities, kennels or veterinary hospitals, and home occupations. Conditional uses might include regulated earth material removal, clustered single family detached homes, campgrounds, and public or private facilities for non-intensive outdoor recreation.

b. Low Density Areas

Low density areas contain some of the most environmentally sensitive and/or visually significant lands in the Town. Within the low density areas, the retention of forest cover should be encouraged. Development which occurs within these areas should be sensitive to the rural nature of the district and preserve open space and forest cover.

The environmental constraints of low density areas place moderate to severe limitations on site development. These limitations include areas with severe slopes in excess of 15% gradient, areas with bedrock exposed or near the surface, and areas with the potential for sinkhole formations. All of the lands in this district have minimal water supply resources. There are minimal surface aquifer deposits and bedrock water supplies are generally low yielding and likely to be contaminated with high levels of sulfur and/or other naturally occurring ground water pollutants.

Low density areas contain some of the best mature forest stands in the Town. These areas are prominently visible from other portions of the Town and County due to the drastic elevation change of the Helderberg Escarpment. The protection of the visual quality is paramount to preserving rural character and unique scenic and cultural features which give the Town its identity.

Acceptable development included only activities that will have limited impact on the natural condition of the district.

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44 U.S. Department of Agriculture, Soil Conservation Service Standards.

Average density development and/or open space provisions should be encouraged in these areas. In addition, non-commercial timber cutting requirements designed to preserve existing forest cover should apply.

3. OVERLAY AREAS

a. Resource Conservation Overlay

The purpose of a Resource Conservation Overlay is to protect fragile ecological systems, vulnerable areas and areas of unique natural or scenic value from development or uses which adversely affect water quality, productive or unique wildlife and aquatic habitat, biotic systems, ecological relationships or scenic and natural values, or which would create unreasonable risks to the public safety and welfare. To accomplish this purpose, productive uses within the overlay area would be limited to those compatible with natural environmental conditions.

In all the density areas listed previously lands exist containing environmental limitations which severely hinder site development. These limitations include areas with severely steep or extremely level topography, exposed bedrock at or near the surface, unsuitable soils for standard septic system design and highly susceptible to erosion. In addition, many areas contain wetlands and floodplains as well as dense forest cover. Much of the area possesses unique visual quality and have associated cultural value.

Development within the Resource Conservation Overlay areas should include only activities which minimize disturbance of natural features, including forest cover, streams and water bodies. Suitable uses include nature preserves, public parks, wildlife sanctuaries, limited forest management and agricultural activities and very low density residential development. Large subdivisions which do not preserve significant amounts of open space, and which require excessive clear cutting and earth movement for roads, wastewater disposal systems and building sites are incompatible.

4. COMMERCIAL AND LIGHT INDUSTRIAL AREAS

a. Rural Commercial Areas

The purpose of the Rural Commercial areas is to provide select areas in the Town where retail and service businesses, dependent on automobile borne customers, and primarily for the convenience of the neighborhood residents, may be located. Key cross roads, outside existing hamlet areas should be considered for rural commercial areas. Site planning and building designs must consider traffic flow, parking, building orientation, landscaping, drainage and other similar factors.

Appropriate land uses for the Rural Commercial areas include retail businesses, professional offices, places of indoor assembly, convenient stores, banks, personal services, such as barber and beauty shops. Conditional uses might include automobile filling stations and eating and drinking establishments.

b. Commercial Areas

The purpose of the Commercial Areas is to provide areas for the location of businesses which are dependent on automobile borne customers and which require large parking areas to be successful. The standards of this district are intended to allow commercial uses while requiring controlled highway access, good quality site design and protection of adjacent residential property.

Appropriate uses for the Commercial District would include hotels, motels, or inns, eating and drinking places, drive-in restaurants, places of indoor assembly, amusement or culture, retail stores, arts and crafts studios, professional offices, office buildings and business offices, lumber and building material dealers, building and construction contractors (provided there is no exterior storage of materials or equipment visible from a public street or abutting property), gasoline service stations, veterinary facilities and kennels, mortuary or funeral parlors, academic institutions and campuses.

c. Light Industrial and Manufacturing Areas

The purpose of Light Industrial and Manufacturing Areas is to set aside areas of the Town for development of manufacturing and processing facilities and to protect these areas from encroachment of non-compatible land uses including residential and commercial uses. Locations for these areas take advantage of existing transportation facilities and the most logical and economically feasible areas for expansion of future municipal sewerage facilities.

Planned development clustering should be promoted which would provide a framework for grouping buildings on portions of large parcels, while preserving open space and environmentally sensitive areas within the confines of a project.

Design standards should require maximum attention to proper site design including the location of structures and parking areas, proper ingress and egress, development of internal street systems, architectural design, landscaping and compatibility of any proposal with native foliage, soils, topography and drainage patterns. Standards should also recognize the need to mitigate visual intrusions and nuisances upon adjacent residential areas. It is intended that existing foliage and natural features be retained and enhanced in relation to sites as well as the surrounding area.

Allowable land uses for this district would include: light industrial and manufacturing involving the packaging, assembly, or distribution of finished products from previously prepared material and related office and showroom activity; bakeries, bottling, printing and publishing, pharmaceuticals, machine shops, precision instruments, watchmakers, musical instruments, toys and sporting goods, pottery and ceramics using only previously pulverized clay, wood products, jewelry, assembly of electrical components, canteen services, and tool and die shops. Light industrial/ manufacturing uses do not include the processing of raw materials or salvage. Office and showroom space associated with the types of land uses mentioned above will also be considered appropriate provided potential conflicts between visitor and operations traffic are minimized, parking and traffic circulation patterns are fully considered and safety hazards are identified and minimized. Site plan and special use permitting will be necessary for these forms of mixed use.

Comprehensive Land Use Map

A Comprehensive Land Use Map of the Town of New Scotland illustrating the placement of the proposed density limits follows.

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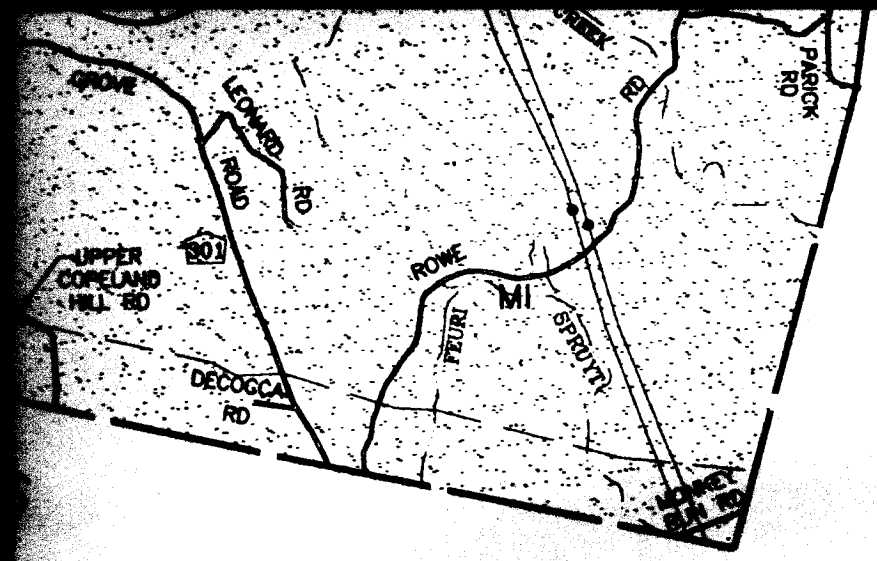

TOWN OF
NEW SCOTLAND
ALBANY COUNTY
NEW YORK

C.T. MALE ASSOCIATES, P.C.

JAN 12 1994

PRINTED AND ISSUED

GRAPHIC SCALE

3000 0 1500 3000 6000 12000

(IN FEET)

1 inch = 3000ft.

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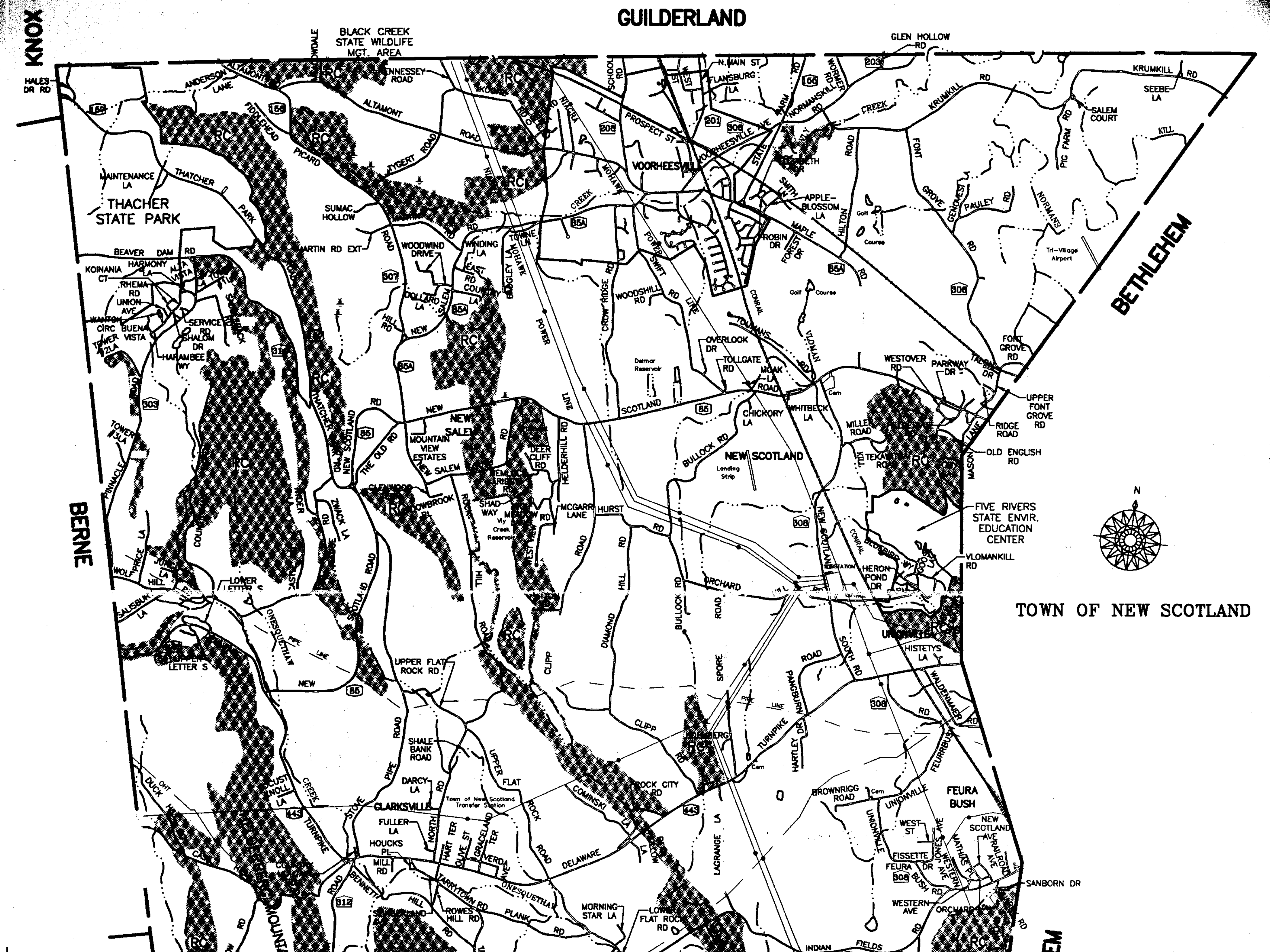
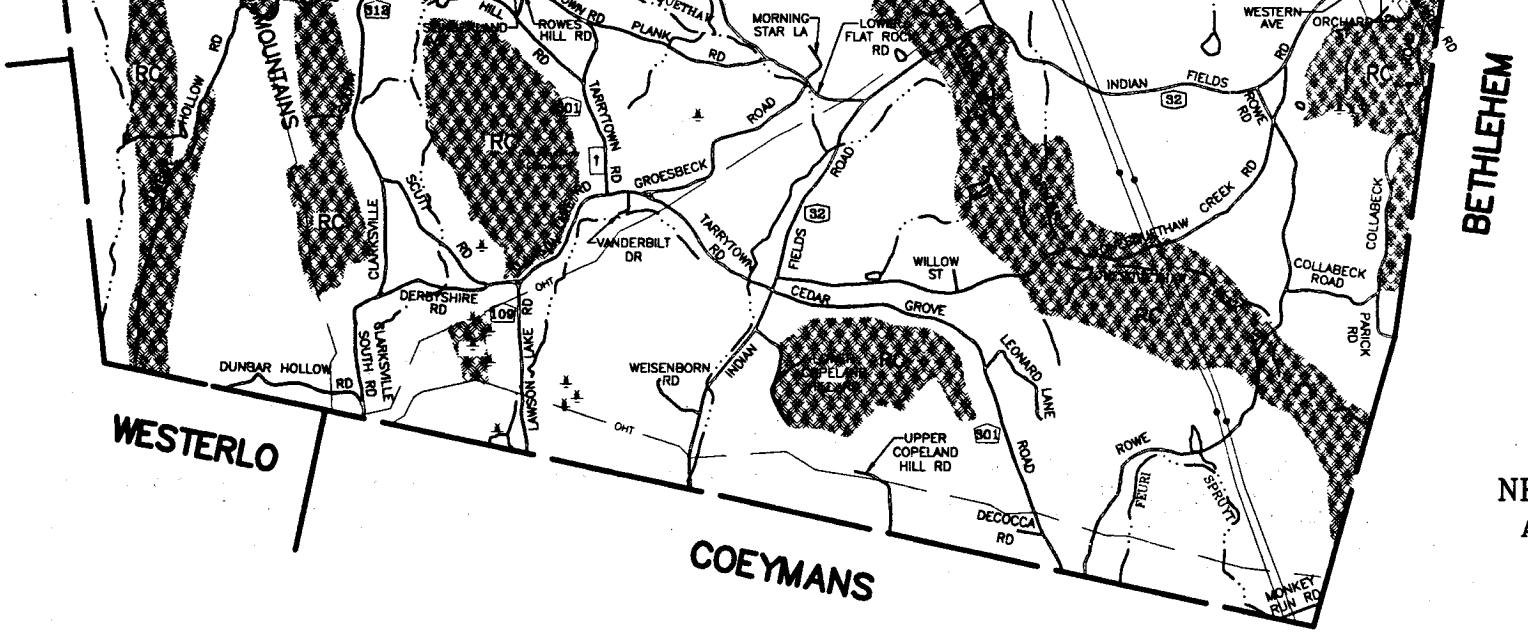
LAND USE PLAN

SCOTLAND COMPREHENSIVE PLAN



GUILDERLAND
KNOX
BERNE
BETHLEHEM
TOWN OF NEW SCOTLAND
BLACK CREEK STATE WILDLIFE MGT. AREA
THACHER STATE PARK
VOORHEESVILLE
NEW SALEM
NEW SCOTLAND
CLARKSVILLE
FEURA BUSH
FIVE RIVERS STATE ENVIR. EDUCATION CENTER
Delmar Reservoir
Vly Creek Reservoir
Tri-Village Airport
Landing Strip
Golf Course
Town of New Scotland Transfer Station
GLEN HOLLOW RD
KRUMKILL RD
SALEM COURT
SEEBE LA
HALES DR RD
ANDERSON LANE
TENNESSEY ROAD
ALTAMONT ROAD
PROSPECT ST
N. MAIN ST
FLANSBURG LA
MAINTENANCE LA
SUMAC HOLLOW
MARTIN RD EXT
WOODWIND DRIVE
WINDING LA
BEAVER DAM RD
KOINANIA CT
RHEMA RD
UNION AVE
SERVICE RD
SHALOM DR
HARAMBEE WY
APPLE-BLOSSOM LA
ROBIN DR
WOODSHILL RD
OVERLOOK DR
TOLLGATE RD
WESTOVER RD
PARKWAY DR
FONT GROVE RD
UPPER FONT GROVE RD
RIDGE ROAD
OLD ENGLISH RD
SCOTLAND
CHICKORY LA
WHITBECK LA
BULLOCK RD
MOUNTAIN VIEW ESTATES
THE OLD RD
DEER CLIFF RD
HELDERHILL RD
MCGARR LANE
HURST RD
VLOMANKILL RD
HERON POND DR
HISTETYS LA
UPPER FLAT ROCK RD
SHALE BANK ROAD
DARCY LA
FULLER LA
HOUCKS PL
MILL RD
ROWES HILL RD
MORNING STAR LA
LOWER FLAT ROCK RD
ROCK CITY RD
BROWNRIGG ROAD
WEST ST
FISSETTE LA
FEURA BUSH RD
WESTERN AVE
NEW SCOTLAND AVE
SANBORN DR
INDIAN FIELDS



TOWN OF
NEW SCOTLAND
ALBANY COUNTY
NEW YORK

LEGEND

RC RESOURCE CONSERVATION OVERLAY DISTRICT

BAR SCALE
4800 0 2400 4800 9600
1 inch = 4800ft.

Figure 10-2

RESOURCE CONSERVATION OVERLAY DISTRICT

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