

**Draft Generic Environmental Impact Statement
For the Southern Area of the Town of New Hartford**

Lead Agency:

Town of New Hartford Planning Board

Contact Person:

Jerome Donovan, Chairman
Town of New Hartford Planning Board
111 New Hartford Street
New Hartford, NY 13413

Prepared By:

peter j. smith & company, inc.
in association with:
Hatch Mott MacDonald
Shumaker Consulting Engineering & Land Surveying, PC
Hartgen Archeological Associates, Inc.

July 2009

Table of Contents

1.0	Executive Summary	1
1.1	Introduction.....	1
1.2	Description of Proposed Action	2
1.3	Introduction and Purpose of GEIS	2
1.4	Existing Land Use and Zoning.....	3
1.4.1	Existing Land Use.....	3
1.4.2	Existing Zoning.....	4
1.5	End Year Build-Out Analyses.....	5
1.6	2030 Build Out Analyses	6
1.7	Summary of Impacts and Mitigation Measures.....	7
1.7.1	Impacts and Mitigation: The Built Environment	7
1.7.2	Impacts and Mitigation: The Natural Environment	9
1.7.3	Impacts and Mitigation: The Socio-Economic Environment.....	11
1.8	Funding	12
2.0	Proposed Action	13
2.1	Project Description.....	13
2.2	Methodology.....	15
2.3	Purpose of Design Plan for the Southern Area	16
2.4	Design Principles	16
2.4.1	Define Growth Boundaries	16
2.4.2	Develop Desirable Density Patterns	16
2.4.3	Retain Mixed Use Centers	16
2.4.4	Manage Storm Water Impacts.....	17
2.4.5	Protect Natural Heritage Features	17
2.4.6	Preserve Agricultural Land	17
2.4.7	Create an Integrated Circulation Network	18
2.4.8	Develop Walkable Neighborhoods	18
2.4.9	Respect Significant Views	18
2.5	Sustainable Community Design.....	19
2.5.1	Hamlet Centers.....	25
2.6	Zoning Changes needed in order to implement the Recommendations of the GEIS.....	29
2.6.1	General Document Organization	29
2.6.2	Zoning Changes	30
2.6.3	Hamlet Zones	30
2.6.4	Residential District.....	30
2.6.5	Agricultural District	30
2.6.6	Design Standards.....	30
3.0	Environmental Impacts and Mitigation Measures of Growth Alternatives	35
3.1	Community Character and Land Use	35
3.2	Alternatives	35
3.2.1	Alternative 1 –No Change to Current Zoning	35
3.2.2	Alternative 2 – Design Plan, Suburban Growth Outside Boundary	36
3.2.3	Alternative 3 – Design Plan, Agricultural Preservation.....	36
3.2.4	Alternative 4 – Design Plan, Moderate Agricultural Preservation.....	36

3.3	End-Year Build Out Analysis	37
3.3.1	Introduction	37
3.3.2	Methodology	38
3.3.3	Baseline – Existing Conditions	38
3.3.4	Alternative 1 – No Change to Existing Zoning	39
3.3.5	Alternative 2 –Design Plan, Suburban Growth Outside Boundary	40
3.3.6	Alternative 3 –Design Plan, Agricultural Preservation	42
3.3.7	Alternative 4 – Design Plan, Moderate Agricultural Preservation.....	43
3.3.8	Build Out Summary	44
3.4	2030 Build Out Analysis	45
3.4.1	Methodology	45
3.4.2	2030 Residential Build Out.....	45
3.4.3	2030 Build Out - Commercial	50
3.4.4	Alternatives 1-4 2030 Build Out Illustrations	51
3.5	Impacts and Mitigation: The Built Environment.....	57
3.5.1	Stormwater	57
3.5.2	Water Systems.....	60
3.5.3	Sanitary Sewer.....	60
3.5.4	Transportation Components	70
3.6	Impacts and Mitigation: The Natural Environment.....	74
3.6.1	Soils	74
3.6.2	Natural Resources	74
3.6.3	Ground and Surface Water.....	75
3.6.4	Visual.....	77
3.6.5	Archeological	78
3.6.6	Air Quality	80
3.6.7	Noise Quality	80
3.7	Impacts and Mitigation The Socio-Economic Environment.....	80
3.7.1	Population	80
3.7.2	Police.....	81
3.7.3	Fire.....	82
3.7.4	Schools.....	82
3.7.5	Recreational Facilities	82
3.7.6	Economy	83
3.8	Mitigation Costs – Fees In Lieu Of Mitigation	83
4.0	Environmental Setting	85
4.1	Regional Context	85
4.1.1	Study Area Location and Description.....	85
4.1.2	Summary of Adjacent Municipality Community Plans	86
4.1.3	Proposed Regional Projects affecting the Study Area	89
4.2	Land Use Inventory.....	89
4.2.1	Existing Land Use.....	90
4.2.2	Zoning Regulations.....	92
4.3	The Built Environment.....	97
4.3.1	Storm water and Drainage	97
4.3.2	Municipal Water System.....	100
4.3.3	Sanitary Sewer System	103
4.3.4	Transportation	109

4.4	The Natural Environment.....	116
4.4.1	Soils	116
4.4.2	Natural Resources	118
4.4.3	Surface and Groundwater Inventory.....	121
4.4.4	Noise Analysis	128
4.4.5	Visual Resource Inventory.....	128
4.4.6	Historical and Archeological Considerations	153
4.5	The Socio-Economic Environment.....	217
4.5.1	Population and Housing Characteristics.....	217
4.5.2	Parks and Recreation Inventory.....	223
4.5.3	Municipal Services and Facilities.....	228
4.5.4	Educational Facilities	232
4.5.5	Economic Conditions.....	233
5.0	Adverse Environmental Impacts that Cannot be Mitigated or Avoided.....	243
5.1	Vacant and Agricultural Land	243
5.2	Storm water Runoff.....	243
5.3	Sanitary Sewer	244
5.4	Roadways and Highways	244
6.0	Irreversible & Irrecoverable Commitment of Environmental Resources.....	245
6.1	Natural Resources Consumed, Converted, or Made Unavailable for Future Use.....	245
6.2	Manmade Resources Consumed, Converted or Made Unavailable for Future Use.....	245
6.3	Cumulative Impacts.....	245
7.0	Growth-inducing Aspects of Proposed Action	247
8.0	Appendix	249
8.1	Funding Sources	249
8.2	NYSDOH Table 1 of Appendix 5-B.....	271
8.3	NYSDOH Fact Sheet #3 - Individual Water Supply Wells	272
8.4	Hartgen Archeological Associates Bibliography	274

List of Tables

Table 1.4-1 Summary of Land Use.....	3
Table 1.4-2 Existing Zoning Districts.....	4
Table 1.5-1 Summary of Build Out Alternatives.....	6
Table 3.3-1 Alternative 1 – No Change to Current Zoning.....	39
Table 3.3-2 Alternative 2 – Design Plan, Suburban Growth Outside Boundary.....	41
Table 3.3-3 Alternative 3 – Design Plan, Agriculture Preservation.....	42
Table 3.3-4 Alternative 4 – Design Plan, Moderate Agricultural Preservation.....	43
Table 3.3-5 Summary of Build Out Alternatives.....	44
Table 3.4-1 2030 Trend Analysis Distribution.....	46
Table 3.4-2 Alternative 1 – 2030 Build Out Distribution.....	47
Table 3.4-3 Alternative 2 – 2030 Build Out Distribution.....	48
Table 3.4-4 Alternative 3 – 2030 Build Out Distribution.....	49
Table 3.4-5 Alternative 4 – 2030 Build Out Distribution.....	50
Table 3.4-6 Commercial Distribution- 2030 Build Out.....	50
Table 3.5-1 Alternative 1 – Full Build Out.....	62
Table 3.5-2 Alternative 2 – Full Build Out.....	63
Table 3.5-3 Alternative 3 – Full Build Out.....	64
Table 3.5-4 Alternative 4 – Full Build Out.....	65
Table 3.5-5 Alternative 1 – 2030 Build Out.....	66
Table 3.5-6 Alternative 2 – 2030 Build Out.....	67
Table 3.5-7 Alternative 3 – 2030 Build Out.....	68
Table 3.5-8 Alternative 4 – 2030 Build Out.....	69
Table 3.5-9 Existing and Future Trip Generation.....	70
Table 3.5-10 LOS and Delay Summary Table.....	70
Table 4.2-1 Summary of Land Use.....	90
Table 4.2-2 Existing Zoning Districts.....	92
Table 4.3-1 New Hartford Design Rainfall Models.....	98
Table 4.3-2 Study Area Roadways.....	109
Table 4.3-3 Manual Intersection Counts.....	110
Table 4.3-4 Level of Service Summary.....	111
Table 4.3-5 Intersection Accident Rates.....	113
Table 4.4-1 Characteristics of Significant Soil Type.....	116
Table 4.4-2 State Protected Plants.....	119
Table 4.4-3 Classification and Descriptions of Sauquoit Creek Tributaries.....	122
Table 4.4-4 Water Table Elevations.....	123
Table 4.4-5 Bedrock Formations.....	124
Table 4.4-6 Scenic Viewpoints.....	136
Table 4.4-7 Historic Domestic Archeological Sites.....	182

Table 4.4-8 Upland Industry Sites	183
Table 4.4-9 Historic Cemeteries	184
Table 4.5-1 Population Change 1990-2000.....	217
Table 4.5-2 Population Trend 1960-2000	217
Table 4.5-3 Population Projections 2000-2030	218
Table 4.5-4 Population Characteristics – 2000	219
Table 4.5-5 Geographic Mobility – 2000.....	220
Table 4.5-6 Educational Attainment for Population 25 Years and Older.....	220
Table 4.5-7 Housing Characteristics – 2000	221
Table 4.5-8 Age of Structures – 2000	221
Table 4.5-9 Home Values – 2000	223
Table 4.5-10 Rent – 2000.....	223
Table 4.5-11 Other Facilities Used for Town Programs.....	224
Table 4.5-12 Recreation Facilities Standards	225
Table 4.5-13 School Districts Facilities	232
Table 4.5-14 Labor Force – 2000 Population 16 years or older	233
Table 4.5-15 Industries of Employment – 2000 Population 16 years or older	233
Table 4.5-16 Occupations – 2000 Population 16 years or older.....	234
Table 4.5-17 Household Income – 1999.....	237
Table 8.1-1 Funding Sources.....	251

List of Figures

Figure 2.1-1 Zone Areas for Build Out.....	14
Figure 2.5-1 Road Sections – Parkway Road.....	19
Figure 2.5-2 Growth Concept.....	20
Figure 2.5-3 Circulation & Street Hierarchy.....	21
Figure 2.5-4 Road Section – Rural Road.....	22
Figure 2.5-5 Road Section – Hamlet Center Connector.....	23
Figure 2.5-6 Road Section – Community Street.....	24
Figure 2.5-7 Road Section – Neighborhood Street.....	24
Figure 2.5-8 Washington Mills ‘Main Street’ Section.....	25
Figure 2.5-9 Washington Mills Design Concept.....	26
Figure 2.5-10 Chadwicks ‘Main Street’ Section.....	27
Figure 2.5-11 Chadwicks Design Concept.....	28
Figure 3.4-1 2030 Build Out – Current Trend.....	52
Figure 3.4-2 2030 Build Out – Alternative 1.....	53
Figure 3.4-3 2030 Build Out – Alternative 2.....	54
Figure 3.4-4 2030 Build Out – Alternative 3.....	55
Figure 3.4-5 2030 Build Out – Alternative 4.....	56
Figure 4.1-1 GEIS Study Area Boundary.....	85
Figure 4.2-1 Existing Land Use.....	91
Figure 4.2-2 Current Zoning.....	95
Figure 4.3-1 Storm water Drainage Areas.....	101
Figure 4.3-2 Water System Inventory.....	105
Figure 4.3-3 Sanitary Sewer System Inventory.....	107
Figure 4.4-1 Major Soil Groups.....	118
Figure 4.4-2 Environmental Considerations.....	129
Figure 4.4-3 Surficial Geology.....	131
Figure 4.4-4 Bedrock Data.....	133
Figure 4.4-5 Viewshed Analysis.....	147
Figure 4.4-6 Scenic Quality.....	149
Figure 4.4-7 Scenic Character Area.....	151
Figure 4.4-8 Locations of Previous Archeological Surveys.....	159
Figure 4.4-9 Rogerson and Murphy Map – 1852.....	167
Figure 4.4-10 French Map – 1858.....	169
Figure 4.4-11 French Map – 1858 <i>Washington Mills Inset</i>	171
Figure 4.4-12 Beers Map – 1874.....	173
Figure 4.4-13 Beers Map – 1874 <i>Washington Mills and Willowvale Inset</i>	175
Figure 4.4-14 Century Map Company – 1907.....	177
Figure 4.4-15 Clinton Group Bedrock and Iron Mines.....	189

Figure 4.4-16 Cemeteries and Newly Documented Archeological Sites	191
Figure 4.4-17 Photograph Angle Locations	193
Figure 4.4-18 Site Visit Photos	195
Figure 4.5-1 Town of New Hartford Population 2000-2005	218
Figure 4.5-2 Building Permits Issued for Study Area	222
Figure 4.5-3 Recreation Facilities.....	229
Figure 4.5-4 Community Facilities	235
Figure 4.5-5 Revenue Sources – 2007 Budget	238
Figure 4.5-6 Property Taxes as a Percentage of Total Town Budget (2002-2007)	238
Figure 4.5-7 Expenditures – 2007 Budget.....	239

1.0 Executive Summary

1.1 Introduction

The Town of New Hartford has made preservation of its character a priority. In the process that resulted in its adopted Comprehensive Plan in 2007, the Town identified itself as follows:

The Town of New Hartford exists as part of a region with special qualities that set it apart from its neighboring communities. It offers a distinct mix of development from rural to urban, from agricultural land and open space with sweeping and dramatic views to compact and clustered hamlets and villages. It offers a range of residential choices from urban to rural. Its rural areas comprise more than 50 percent of the Town's area. Residential development comprises roughly one-third of the Town. The Town has evolved into a retail and commercial center serving the Mohawk Valley. Its special place in the Region creates unique development opportunities and pressures.

Preserving and enhancing the Town's special character is important to its future as one of the residential areas of choice for the region. At the same time, additional opportunities for economic development need to be identified and accommodated within the Town. Achieving a balance between conservation and development will be a continuing challenge for the future.

The development opportunities and pressures unique to the Town are particularly evident in the southern area of the Town. With its splendid views and dramatic topography, the southern area of New Hartford has become a magnet for new and relocating residents. It has two historic hamlets, Chadwicks and Washington Mills, and each has its unique character and faces its own opportunities and challenges, including commercial development and preservation.

The 2007 Comprehensive Plan acknowledges the pressures that have come to bear on the Southern Area of the Town, and identified it as a critical area for special planning. Continued development has resulted in intense and cumulative adverse impacts. These are concentrated generally in three issue areas:

Storm water – The southern area of the Town is defined by the Sauquoit Creek, because of the severe topography and the increase in impervious surfaces resulting from development, usual and predicible storm water impacts are intensified.

Traffic – An increase in auto-dependant development has resulted in a perceived and growing traffic problem particularly in Washington Mills where current volumes result in traffic congestion at peak hours.

Infrastructure – Increasingly scattered residential development increases the expense and decreases the feasibility of providing municipal services to all residences.

Additional impacts can be anticipated including, impacts to significant viewsheds and the need for community facilities such as parks, schools, and emergency services.

This Generic Environmental Impact Statement (GEIS) has been commissioned as a result of these continued adverse and cumulative impacts of development. It emphasizes community design and sustainability as encouraged and recommended by the Town Comprehensive Plan. A Design Plan for the Southern Area is presented in this GEIS, which strives to balance conservation and growth management.

The Design Plan is innovative in its approach of defining strategies for increasing densities in a mixed-use environment in the hamlets in order to concentrate anticipated impacts so that they can be mitigated where they occur. The Design Plan for the Southern Area emphasizes the qualities

valued by the residents of the Town as set forth in the 2007 Comprehensive Plan: community, neighborhood, quality of life and sustainability. The implementation of the Design Plan will result in a preservation of the character of the Southern Area of the Town: bustling hamlets with commercial and retail services and higher density residential settlement balanced with the preservation of open space and farmland outside of the immediate growth area defined around the hamlets.

1.2 Description of Proposed Action

This GEIS is prepared for the Southern Area of the Town of New Hartford, New York (hereinafter referred to as one of the following: “Study Area”, “GEIS Study Area”, “southern area”, “southern area of New Hartford”, “southern portion”). The Study Area consists of 9,703 acres of land area in the southern portion of the Town of New Hartford, generally south of Paris, Higby and Valley View Roads.

The proposed action is for management of continued growth in the southern area following a design plan consistent with the 2007 Comprehensive Plan Update and discussed in detail throughout this GEIS. The action of implementation of a design plan and subsequent revisions to zoning is subject to environmental review as it is a Type I action pursuant to State Environmental Quality Review Act (SEQRA) {6NYCRR 617.4(b)(1)} which states as follows:

“the adoption of a municipality’s land use plan, the adoption by any agency of a comprehensive resource management plan or the initial adoption of a municipality’s comprehensive zoning regulations.”

A review of potential impacts to the Study Area as set forth under SEQRA at 6NYCRR Part 617 was conducted and consisted of looking at alternatives for managing continued growth of the southern area with respect to built environment, natural environment, and community facilities. These three main review categories established the framework by which continued development of the Study Area was analyzed for impacts.

1.3 Introduction and Purpose of GEIS

The 2007 Comprehensive Plan Update for New Hartford emphasizes the importance of preserving and enhancing town character while accommodating new opportunities for economic development. The role of the Plan is to provide a framework to guide decision making in the future as Town leaders strive to strike a balance between conservation and development. The southern portion of the Town is predominantly agricultural with scattered residential development and pockets of commercial development primarily in the hamlets of Washington Mills and Chadwicks. Continued development of this portion of the Town, while conserving the agricultural lands and maintaining the small-town charm of the existing hamlets, would best be done through a planned and coordinated fashion.

The purpose of the GEIS is to develop a growth management design plan consistent with the conceptual plan of the 2007 Comprehensive Plan, to conduct an environmental review of the implementation of the Design Plan for the southern area, and to identify the infrastructure changes that are necessary to implement the Design Plan.

1.4 Existing Land Use and Zoning

1.4.1 Existing Land Use

The Study Area consists of 15.2 square miles or 9,703 acres of land area. A geographic information system (GIS) was used to summarize the area by land use category. In the resulting totals that are presented below, 566 acres have been removed for road right of way and not calculated into the land use percentages. The following table summarizes the distribution of land uses in the Study Area:

Table 1.4-1 Summary of Land Use

Land Use	Acres	Percent
Agriculture	3,573	39.1%
Low Density Residential	2,904	31.8%
High Density Residential	68	0.7%
Commercial	78	0.9%
Industrial	3	0.0%
Community Service	166	1.8%
Public Service	259	2.8%
Open Space	39	0.4%
Vacant	2,047	22.4%

Source: Town of New Hartford and peter j. smith & company, inc.

Agricultural land uses include land devoted to the growing of crops, orchards and livestock. Nearly 40% of the land in the Study Area is dedicated to these uses. Residential land uses occupy nearly a third of the Study Area with a mix of single-family and two-family houses in the Hamlet of Chadwicks and several neighborhoods of single-family homes located around the Hamlet of Washington Mills. Apartment complexes around Washington Mills and a Mobile home park north of Chadwicks account for the small amount of high-density residential uses. Less than 1% of the Study Area is classified as commercial, primarily retail sales, and is essentially located in Chadwicks and Washington Mills.

Industrial uses occupy three acres of the Study Area on Bleachery Avenue in the Hamlet of Chadwicks. Public Service uses account for 2.8% of the Study Area, the majority of which is occupied by the reservoirs on Valley View Road in the northeast portion of the study area. Community Service uses constitute less than 2% of the Study Area with the largest parcels being the E.R. Hughes and Perry School complex and the Charles T. Sitrin Health Care Center. Open Space areas make up less than 1% of the Study Area. The Washington Mills Athletic Fields and Donovan Memorial Park are the only areas designated as open space in the Study Area. More than a fifth (22.4%) of the land in the Study Area is vacant, indicating land that has never been developed, has been abandoned, is undevelopable or once was developed, or was farmed but is currently fallow. Large areas of vacant land can be found around Higby Road and Tilden Avenue, between Chapman Road and Sessions Road, and between Red Hill Road and Grange Hill Road. There are also several vacant parcels found along the Sauquoit Valley Arterial.

1.4.2 Existing Zoning

The Town of New Hartford is currently divided into 21 zoning districts. There are 15 of these districts in the GEIS Study Area. These include: three agricultural districts, three residential districts, three commercial districts, three planned development districts, one industrial district, one institutional district and one park district. The following table shows the distribution of zones by land area in the Study Area:

Table 1.4-2 Existing Zoning Districts

Zone	Zone Name	Acres	Percent
P	Park	38	0.4%
A	Agriculture	4,390	45.2%
RA1	Residential Agriculture 1	594	6.1%
RA2	Residential Agriculture 2	1,584	16.3%
LDR	Low Density Residential	1,868	19.3%
MDR	Medium Density Residential	371	3.8%
HDR	High Density Residential	99	1.0%
RB2	Retail Business 2	155	1.6%
RB3	Office Business	5	0.1%
RB4	Neighborhood Business	26	0.3%
M	Manufacturing	61	0.6%
I	Institutional	122	1.3%
PDI	Planned Development Institution	238	2.5%
PDMH	Planned Development Mobile Home	19	0.2%
PDRES	Planned Development Residential	131	1.4%

Source: Town of New Hartford and peter j. smith & company, inc.

The three agricultural districts cover more than two-thirds of the Study Area. The uses allowed in all three districts are similar but there are differences in the required lot size for dwelling units. These districts are located: between Mohawk Street and the Sauquoit Arterial (covering an area from approximately Chapman Road to south of Roberts Road); along Tibbitts Road on the north and south sides as it nears Oxford Road; and along Tilden Avenue (primarily along the east side up to the GEIS Study Area border). Residential districts make up nearly one-quarter of the land in the Study Area.

Three commercial districts cover less than 2% of the Study Area and Planned Developments represent 4% of the Study Area. The Town of New Hartford zoning code has seven Planned Development districts, three of which are located in the Study Area; the largest being the Sitrin Health Care Center. There are 61 acres of land zoned for industrial uses located along Oneida Street at Bleachery Avenue in Chadwicks; Institutional Districts represent 1.4% of the land within the Study Area; and 38 acres are zoned as Park District consisting of Donovan Memorial Park and the Washington Mills Athletic Complex.

In addition to the base districts there are five overlay districts: Stream Corridor Overlay District (SCOD), Wetlands Overlay District (WOD), Aquifer Overlay District (AOD), Steep Slope Overlay District (SSOD) and Natural Resource Protection District (NRPD). The overlay districts are designated to protect environmental areas and limit development in flood plains.

1.5 End Year Build-Out Analyses

The purpose of the build out analyses is to demonstrate how the Southern Area of the Town of New Hartford could develop under specific planning alternatives. The Town can use these build out analyses to help it make decisions for future land use policies and zoning. For the Southern Area GEIS, two sets of build out analyses were completed. One set shows that impact of each of the developed alternatives over time to the “nth” or end year, that is, complete build out. The other set shows the impact of the planning alternatives over the 20-year planning horizon.

In order to develop the planning alternatives, the Town of New Hartford first identified a growth boundary that is consistent with the recommendations of the Comprehensive Plan and is sensitive to various considerations including the transportation network, topography and current development patterns. The purpose of the growth boundary is to contain future development and preserve farmland, open space and significant views and to maximize the efficiency of the Town’s infrastructure including water, sanitary sewer and transportation systems. As a result, three of the four planning alternatives show different potential rates of growth inside the growth boundary than outside.

The intent of the build-out analysis is to show how development can be managed with different land use policies. In the analysis, a baseline was first established which details the current conditions in the southern area. This baseline was then used to compare the four alternative growth alternatives. The four alternatives were analyzed for their potential development and associated impacts and consist of the following:

- ‘Alternative 1’ (No Action)– Continued Growth of the Southern Area under Existing Zoning Regulations (lot sizes vary throughout Study Area)
- ‘Alternative 2’ – Concentrated Growth within Growth Boundary, Suburban development outside Growth Boundary (1 acre lots)
- ‘Alternative 3’ – Concentrated Growth within Growth Boundary, Agriculture Preservation outside Growth Boundary (10 acre lots)
- ‘Alternative 4’ – Concentrated Growth within Growth Boundary, Moderate Agriculture Preservation outside Growth Boundary (5 acre lots)

Table 1.5-1 shows the build-out summary of the entire GEIS Study Area under existing conditions (2008) and all four Alternatives. This summary shows the total number of residential units that could be built based on available acreage and the total amount of square footage for commercial/industrial space that could be developed based on available space from vacant and agricultural land. The amount of agriculture land that would be preserved in Alternatives 3 and 4 is based on the assumption that development would take place under agricultural preservation strategies, clustering on one-acre lots with 1:10 and 1:5 ratios. For example, in Alternative 3, a 100-acre development parcel could be developed into 10 units. If these units were concentrated on one-acre lots, 10 acres would be developed and the remaining 90% of the land could be preserved for agriculture. Alternative 4 would leave 80% of the land for agriculture. The methodology was only counted for actively farmed land. A similar proportion of vacant land would be preserved as open space. The following table shows the total capacity for development and preservation of agricultural land among the four alternatives and the existing level of development.

Table 1.5-1 Summary of Build Out Alternatives

	Residential Units	Commercial Space (sq.ft.)	Acres of Agriculture
2008 Conditions	3,102	554,000	2,954
Alternative 1	7,461	1,631,455	0
Alternative 2	9,941	1,037,698	0
Alternative 3	6,440	1,037,698	2,450
Alternative 4	6,829	1,037,698	2,177

Source: peter j. smith & company, inc.

All four alternatives would allow the number of households in the Southern Area to more than double if the entire study area were completely built out. Alternatives 1 and 2 yield an even greater number of residential units than do Alternatives 3 and 4, although no agricultural land will be preserved in Alternatives 1 and 2. Also, in the first two alternatives, development would be more spread out throughout the Study Area even though Alternative 2 is based on the a concentration of growth with the growth boundary, it allows for more growth outside the boundary than do Alternatives 3 and 4. The amount of commercial development in Alternative 2, 3, and 4 is assigned to hamlet areas and remains the same for each. In each case the amount of potential commercial area is nearly double existing commercial space. The potential amount of commercial space in Alternative 1 is nearly triple the amount of existing commercial space.

It is important to note that these figures represent the maximum amount of development potential based on each alternative, the “nth” or end year referenced above. In order to make it easier to understand the immediate impacts of implementing each of the alternatives, build out analyses were developed for the 20-year planning horizon, to 2030.

1.6 2030 Build Out Analyses

The 2030 build out analyzes the development that is likely to happen by the year 2030, or within the 20-year planning horizon. The analyses were developed by first obtaining the location of all residential building permits issued in the Southern Area between 2000 and 2008. The pace of the permits was extrapolated into a development rate which was applied to the future. Scenarios were developed carrying the rate of development forward as it has been trending during 2000-2008 without regard to zoning and then applied to each of the four alternatives. The current trend scenario is based on the distribution of building permits. Since the rate of development is constant throughout the analysis, the numbers of housing units developed is the same for each alternative. The difference in each alternative is the potential spatial distribution of development. The exact methodology of this analysis and the spatial distribution of development are presented in Section 3 of this GEIS. The result of the analysis shows a dispersed pattern of development for Alternatives 1 and 2 and a more concentrated and organized pattern for Alternatives 3 and 4. The 2030 Build Out Analyses were used to measure environmental impacts of the alternatives as the GEIS is a 20-year planning document.

1.7 Summary of Impacts and Mitigation Measures

The potentially adverse impacts measured by the GEIS are cumulative and in some cases may take many years to entirely manifest themselves. Other impacts can be felt immediately. This discussion is based upon cumulative impacts over the 20-year planning horizon, which is practicable. Where these 20-year impacts cannot be known, a cumulative impact at full development is assumed.

Potentially adverse environmental impacts in the southern area of the Town of New Hartford resulting from continued growth will manifest themselves in the following areas: built environment (storm water runoff, sanitary sewer, and transportation); natural environment (water quality and supply; air and noise quality; visual; and flora/fauna); and socio-economic environment (police, schools, emergency services, recreation).

1.7.1 Impacts and Mitigation: The Built Environment

1.7.1.1 Storm Water and Drainage

The affect of storm water runoff on roadways, built structures, and open space is determined in part by the amount of impervious surfaces that exist in an area prone to flooding. Other contributing factors include the slope of land, the ability of the soil to absorb water, capabilities of storm water sewers to facilitate flow, and capacity of treatment facilities to manage the flow.

Storm water runoff concerns exist throughout the Study Area, predominantly along Red Hill Road at Oneida Street; Tibbitts at Oxford Road; Sherman Hills Subdivision; Pleasant Street; and Chapman at Oneida Street. Flooding also occurs in the northeast portion of the Study Area, however at a lesser frequency than the areas mentioned previously. Temporary flooding as a result of heavy precipitation occur along Mohawk Street as it enters the southern portion of the Town (north of Paris town boundary) and as it continues northward just before Roberts Road and then again where it intersects Mallory Road; Higby Road at Valley View and Chapman; Valley View for a portion of the east boundary of the Study Area; and a portion of Tibbitts Road in the northwest portion of the Study Area.

The type of development in an area dictates the amount of impervious land surface that directly impacts runoff. Impervious land cover includes anything that is covered by a waterproof cover, such as roofs, driveways, paved parking lots, tennis courts, etc. Continued development of the Study Area following any of the four alternatives could result in a 10-fold increase in impervious land area, which equates to anywhere from 23% to 33% of the land being impervious. However, Alternatives 3 and 4 afford a slight compromise in this regard since they limit development to areas within the growth boundary and therefore do not allow development of all vacant and agricultural land. This means that less permeable surface area becomes covered by the footprint of new development, especially in hilly areas of the Town.

1.7.1.2 Water Systems

Most of the areas in the Sauquoit Creek Valley and in the Northeast section of the Study Area are served by a public water system. Water is delivered by the Mohawk Valley Water Authority (MVWA). MVWA has enough capacity to provide service for any new development. Any development in or adjacent to areas currently serviced by MVWA would be able to tap into the public system. The cost of connection would most likely be borne by the developer. The cost of service would vary by district based on the amount of pressure needed in the system.

Areas in the West and Southeast section of the Study Area would be unable to tap into the public water system unless lengthy extensions to the current system were constructed. These areas would most likely be served by individual wells. There are already identified issues with water pressure and water quality in these areas. These issues would only be exacerbated the development patterns of Alternative 1 and 2. Water pressure would decrease by the increased use of the aquifer and the increase of septic systems would have a negative impact on water quality. These impacts would be considerably less in Alternatives 3 and 4.

1.7.1.3 Sanitary Sewer

The Town of New Hartford Sewer District currently encompasses approximately 45% of the Study Area. Those areas within the Study Area outside of the Sewer District are served by individual sewage treatment systems (septic systems). All areas within the Sewer District are served by Town owned sewer mains, which in turn drain to the interceptor sewers owned by Oneida County Sewer District (OCSD) transport to the waste water treatment plant (WWTP). A consent order issued by the New York State Department of Environmental Conservation (NYSDEC) to the OCSD is essentially limiting the development which can occur outside of the existing town Sewer District. In order for new development to occur, and gain the approval of both consent order parties, infiltration and inflow (I/I) removal projects must be identified and undertaken to remove 5 gallons of I/I for every 1 gallon of wastewater introduced into the system.

For all development alternatives, it may be expected that the sanitary sewer trunk capacity in the hamlets of Washington Mills and Chadwicks may be exceeded by 2030. The increased in sanitary flow is largely dependent upon the projected increase of commercial space in these areas.

1.7.1.4 Transportation

In determining impacts to automobile traffic as a result of the future growth of the GEIS Study Area, an analysis of trip generation was performed. The number of trips generated by residential and commercial development is determined by an established number of PM peak hour trips according to the methodology established by the *Institute of Transportation Engineers* (ITE).

The four alternatives for future growth in the Town of New Hartford were assessed for their impact on the existing transportation system. Within the next 20 years, traffic volumes are forecast to increase by 20 percent. This increase will not cause any significant change over current conditions.

Capacity could be improved by limiting the number of access driveways, installing traffic signals to facilitate the movement of vehicles from the establishments or limiting turning movements from the access driveways altogether or during periods of peak traffic demand. Traffic signals could be coordinated with either a time based system or with wireless interconnect. Wireless interconnect is proving to be an inexpensive way to improve the operation of traffic signals, and could be linked to a traffic operations center for the Town or the County in the future.

Continued development of the southern area of New Hartford will result in an increase in traffic volume on existing community streets, arterials, and collector roads. Trips will also likely increase due to continued residential development. This is anticipated primarily outside of and between Washington Mills and Chadwicks as a result of continued development under current conditions and existing zoning. If development is left to occur without a planned and coordinated design, larger tracts of land located in areas that are remote to commercial centers and location of amenities may result in more automobile trips to the hamlets.

1.7.2 Impacts and Mitigation: The Natural Environment

1.7.2.1 Soils

Alternatives 1 and 2 involve development of vacant and agricultural lands in the entire GEIS Study Area, including Northeast, Southeast, and West areas. Soils designated for agricultural use and areas where the topography restrict development due to slope, exist primarily in the Northeast and West areas of the GEIS Study Area, with some also occurring in the Southeast portion of the Study Area. These existing constraints present variables non-conductive to development. Alternatives 3 and 4 do not impact areas where the soils are best for agricultural use. While some development would still be permitted, these alternatives aim to protect agricultural land/soils and would promote future development within the hamlets where necessary infrastructure already exists.

1.7.2.2 Natural Resources

The Town of New Hartford Zoning Ordinance identifies a Natural Resource Protection Overlay District. In the Southern Area, the overlay is located around the reservoirs and between Sauquoit Creek and the rail line. The Overlay provides standards and guidelines to be applied within its boundaries. These standards and guidelines are designed to preserve and protect the Town's natural resources from negative impacts. The Town has a similar overlay for areas with steep slopes.

Under any of the four growth alternatives, impacts to wildlife would be limited to temporary disruption of usual nesting and breeding grounds, with a lesser degree of disruption to migratory routes, though none were specifically noted as occurring in the Study Area. Animals will adapt to the changes in the existing environment through movement to other locations and/or return to the area piecemeal, since development will occur over a period of years rather than all at once. The same can be said for plant life, although endangered plant species could be incorporated into the landscaping of new development.

Wetlands account for approximately 0.4% of the land area within the Study Area. If development were proposed for the area that is a State designated wetland, mitigation measures would be necessary and could consist of replacement in kind in a location that would support a wetland.

1.7.2.3 Surface and Groundwater

Future subdivision applications for lands not connected to the public water supply system should include a description of what well yield testing and water quality testing will be completed to ensure that individual wells will provide water of adequate quantity and quality. These well tests should meet or exceed the minimum testing required by the NYSDOH and NYSDEC. Town zoning in areas not served by public water may also need to be changed to restrict subdivision lot density, reducing the number of water users in a subdivision area. Residential zoning districts not served by public water and sewer are recommended to have minimum lot sizes of 1 to 3 acres (or greater). Smaller lot sizes should be encouraged where these public utilities are available.

An existing mitigation measure to protect the Town's water resources exists within its current zoning ordinance. Three specific overlay districts have been established within the Town to set standards and guidelines for streams (Stream Corridor Overlay District), wetlands (Wetlands Overlay District) and aquifers (Aquifer Overlay District). All overlay districts were developed with the overall intent to preserve and protect current water resources.

Development following Alternative 1 and 2 would permit build-out of the northeast area. This area lies in the Starch Factory Creek drainage basin which is also part of the Mohawk River Basin. It is identified by the USEPA as a Section 303.d Impaired Waterway and as such, special storm water SPDES requirements are necessary prior to development within this area.

Along with continued development of any municipality, there is usually a direct correlation with the traffic generated as a result of new development. Increased traffic during months of adverse weather can in turn dictate the amount of road salt applied to keep roads ice-free. Road salt becomes a concern to adjacent water bodies, ditches, and or any avenue that facilitates the movement of salt-tainted water runoff to the receiving body of water.

1.7.2.4 Visual

Scenic views were inventoried based on the apparent scenic quality, which was determined using the following factors: landform, vegetation, water, color, adjacent scenery, scarcity, and cultural modification. The major visual features that could be impacted from continued development were primarily valleys. Eighteen viewpoints contained valleys as a major element, and 16 viewpoints contained ridgelines. Other major visual elements that were frequently listed included houses and hills. Agricultural visual character will be impacted in some areas outside of the growth boundary if Alternative 1 or Alternative 2 is progressed. Areas having the highest scenic quality correspond with areas where the elevation varies considerably, i.e. along Snowden Hill Road, Red Hill Road, and Grange Hill Road. Likewise, areas situated east of the Sauquoit Creek Valley, along Mohawk Street and Higby Road, are considered to have a scenic quality rating of 'High'. There is a correlation between areas of high scenic quality and recent building permit activity. These areas have been subject to requests for new residential building permits over the period of 2000-2008, more so than any other location in the Study Area, with slight exception to Tibbitts Road, where the relative level topography allows for the construction of new residential units.

1.7.2.5 Archeological

In areas of large-scale suburban development where there is little to no potential for deeply buried archeological deposits, such as the suburban housing in the northeast corner, archeological potential is considered low. However, along the NY 8 corridor, there is still a high potential for archeological sites, especially mill and industrial-related sites, in areas like parking lots and public parks. In these locations, sites are more likely to be buried beneath natural alluvial soils or fill used to raise the modern ground surface above the creek flood level. Some segments of the Sauquoit Creek have been altered for flood control.

1.7.2.6 Air Quality

As a result of this anticipated increase in automobiles per household and/or trip generation, the air quality could be impacted in areas where traffic may experience delays. This degradation of air quality would be temporary and confined to the area of traffic back-up, however, and thus any degradation in air quality would be dissipated after traffic congestion eases. It is not anticipated that the ozone attainment status of the County would change as a result of any future development. Further, development would occur presumably over a period of years, or would consist of other than single family residential, (mixed residential or other than single residential was recommended in the comprehensive plan) and as such, the air quality would not be overly affected.

1.7.2.7 Noise

Currently ambient noise levels in the hamlets and the entire southern area have not been identified as an issue of concern. With continued development of the Study Area, following any of the four alternatives, noise impacts would be limited to an increase in automobile traffic, however it is not anticipated that any increase in traffic would result in an increase in ambient noise levels warranting a noise study analysis.

1.7.3 Impacts and Mitigation: The Socio-Economic Environment

1.7.3.1 Population and Housing

With an anticipated increase of 448 housing units over the planning horizon, the anticipated population increase could be anticipated to be 1,102 based on 2.46 persons per household. The population of New Hartford has been aging, consistent with the trend in the region as a whole. As a result, household sizes are anticipated to remain small.

1.7.3.2 Emergency Services

By 2030, fewer than one additional police officer would be needed to serve the population increase created by the Study Area according to generally accepted population-to-police officer ratios. The concentration of the population in Alternatives 3 and 4, would allow the police force to concentrate their resources.

A review of the equipment associated with each fire company was conducted as part of identifying the inventory of the Study Area. It was determined from this information that all three fire companies have staff and equipment to meet current and future needs.

There are three ambulance companies that provide service to the entire Town. There is an adequate supply of ambulance services under existing conditions. Similar to police protection, although difficult to predict and determine, if population increases significantly as a result of implementation of any of the four development alternatives, a reassessment of the need for additional ambulance service may be necessary.

1.7.3.3 Schools

With an anticipated increase of 448 housing units over the planning horizon, the schools can anticipate that 176 added population will be school-age. Due to migration within the town (as opposed to new population influx) this increase may or may not come from outside the school district. This does not appear to be a large enough influx into the public school system on its own to justify or require adding a new school building or triggering a significant expansion of existing facilities. The New Hartford school system recently approved a \$26 million Capital Improvement project for renovations and some additional classrooms.

1.7.3.4 Parks and Recreation

Each growth alternative could result in additional population in the Southern area of the Town of New Hartford, however no one particular alternative would grow the Town more than the other, with slight possible exception to Alternatives 1 and 2, which show full build out of the entire southern area, including all vacant and agricultural land. Regardless of how the Southern Area is built out, there is a current identified need for additional recreational facilities, per the revised required amount as dictated by the public in the Town of New Hartford Parks and Recreation Master Plan.

1.7.3.5 Economy

In order to preserve the character of the Town of New Hartford, the alternatives concentrate commercial growth in the hamlets. These commercial centers are envisioned to serve residents of the Southern Area generally and the residents in and around the hamlets specifically. A large influx of commercial growth is not anticipated as a result.

1.8 Funding

Expenditures for public services can be expected to increase as the southern area of the Town gains residential and commercial density and demand increases. Among the needs that can be anticipated are increases in community services and traffic management as well as upgrades to the sanitary sewer and public water systems. Additional demands can be anticipated for additional areas such as public safety, parks and recreation, property acquisition, schools, solid waste handling, preservation of scenic resources and protection and preservation of historic and cultural resources.

Options for funding these needs are of particular concern to town officials as well as to the residents who pay real estate taxes. As the public's willingness and ability to fund public services expansion associated with development diminish, other public sources, such as state, federal and private grants become more desirable. However, competition for these sources is keen and the resources available are limited. Nonetheless, a list of loans and public and private grant sources is appended to the GEIS.

The public is understandably interested in mechanisms that will force development to "pay its own way." The recognized way of making development pay its own way are impact fees or exactions as they are known in some states. However, these impact fees and exactions are not permitted in New York State. However, there is an avenue for allowing development to mitigate its adverse impacts. Called fees in lieu of mitigation (FILM), the system offers municipalities and developers a way to construct a fair and predictable system for developers to offer voluntary fees, based upon an established schedule, to mitigate the off-site impacts of development. In the alternative, the fee schedule provides a standard investment schedule for developers who may want to offer something besides a cash contribution, such as land or traffic improvements.

Accepted farmland preservation strategies are also effective tools in preventing sprawl and therefore preventing costly additions to infrastructure. Mechanisms for preservation include purchase of development rights (PDR) and transfer of development rights (TDR). Both have been effective in helping communities to preserve farmland and open space and directing development to areas where it can be better sustained.

2.0 Proposed Action

2.1 Project Description

The proposed action is the planned management and Growth in the southern area of the Town of New Hartford (hereinafter referred to variously as: “Study Area”, “GEIS Study Area”, “southern area”, “southern area of New Hartford”, “southern portion”) pursuant to guidelines and specific details presented in the Town’s 2007 Comprehensive Plan Update. The southern area of the Town of New Hartford is situated generally south of Paris, Higby and Valley View roads. The purpose of the GEIS is to develop a plan for the Study Area to concentrate development in the hamlets, thus helping the community identify strategies it can use to preserve the character of the community, prevent sprawl and to determine the impacts of the Town’s decisions about future land uses in the Study Area. In the GEIS four alternatives are explored for the future of the Study Area, they range from maintaining the status quo to agricultural and open space preservation strategies. They are:

- ‘Alternative 1’ (No Action)– Continued Growth of the Southern Area under Existing Zoning Regulations
- ‘Alternative 2’ – Design Plan within Growth Boundary, Suburban development outside Growth Boundary (1 acre lots)
- ‘Alternative 3’ – Design Plan within Growth Boundary, Agriculture Preservation outside Growth Boundary (10 acre lots)
- ‘Alternative 4’ – Design Plan within Growth Boundary, Moderate Agriculture Preservation outside Growth Boundary (5 acre lots)

Figure 2.1-1 shows the Zone Areas for Build Out. In order to fully understand the impacts of potential development on the southern area through the Design Plan and the associated build out analysis, the study area was divided into 15 subareas. Areas 1 through 10 roughly follow the topography of the Town in an area adjacent to Washington Mills and Chadwicks; three areas are further away from the Sauquoit Valley, however, and are situated in the outlying areas. These areas are simply identified as Northeast, Southeast, and West. Two of the identified areas are the hamlets – Washington Mills and Chadwicks. The boundaries of the hamlets were determined by examination of existing conditions such as the presence of commercial uses and the density of residential development. Topographic conditions and transportation networks were also considered when determining the boundaries of the hamlet areas. The West, Southeast and Northeast areas are remote from the hamlets.

As part of the GEIS review process, the potential cumulative effects of development in the Study Area are addressed. Existing conditions in the Study Area, such as environmental, socioeconomic, transportation, infrastructure and economic issues are described, potential impacts of proposed and permissible development in the Study Area are determined and the means of avoiding or minimizing potential negative impacts are identified. The end product of this process is a valuable tool in creating a desired character and design within the Study Area.

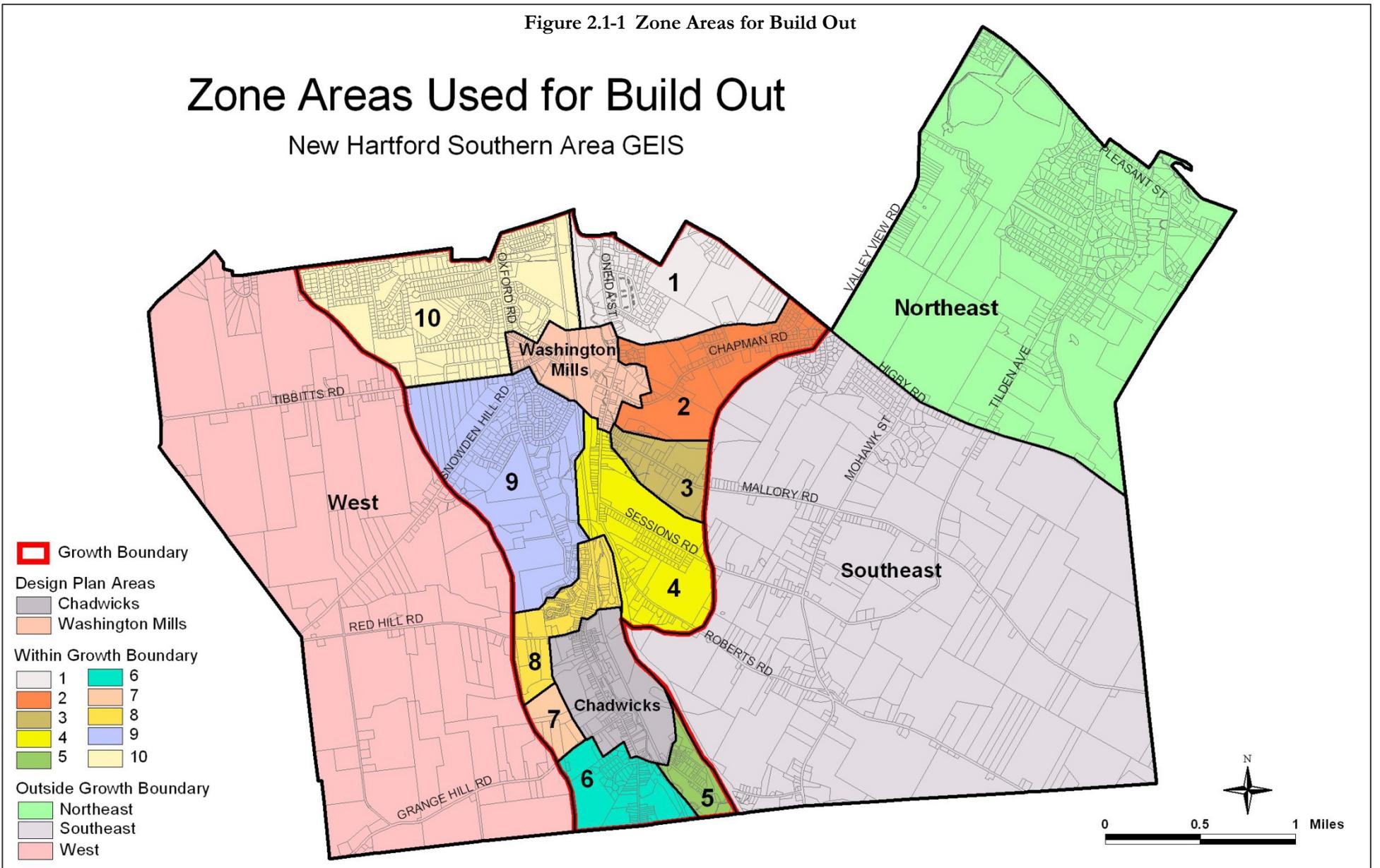
The action of implementation of a design plan and subsequent revisions to zoning is subject to environmental review as it is a Type I action pursuant to State Environmental Quality Review Act (SEQRA) {6NYCRR 617.4(b)(1)} which states as follows:

“the adoption of a municipality’s land use plan, the adoption by any agency of a comprehensive resource management plan or the initial adoption of a municipality’s comprehensive zoning regulations is a Type I action”

Figure 2.1-1 Zone Areas for Build Out

Zone Areas Used for Build Out

New Hartford Southern Area GEIS



Further, Section 617.10(b) and(c) states that a Town can prepare a GEIS for the adoption of a land use plan as follows:

(b) In particular agencies may prepare generic EISs on the adoption of a comprehensive plan prepared in accordance with subdivision 4, section 28-a of the General City Law; subdivision 4, section 272-a of the Town Law; or subdivision 4, section 7- 722 of the Village Law and the implementing regulations. Impacts of individual actions proposed to be carried out in conformance with these adopted plans and regulations and the thresholds or conditions identified in the generic EIS may require no or limited SEQR review as described in subdivisions (c) and (d) of this section.

(c) Generic EISs (GEIS) and their findings should set forth specific conditions or criteria under which future actions will be undertaken or approved, including requirements for any subsequent SEQR compliance. This may include thresholds and criteria for supplemental EISs to reflect specific significant impacts, such as site-specific impacts, that were not adequately addressed or analyzed in the generic EIS.

2.2 Methodology

The preparation of this GEIS consisted of a review of the accompanying inventory of the southern area of the Town of New Hartford; a review of associated traffic study; historic and archaeological study; storm water and sanitary sewer studies; and visual assessment.

The review of each of the aforementioned documents was done in concert with the proposed conceptual Design Plan for future development of the GEIS Study Area. A comprehensive and detailed assessment of the goals and policies of the Comprehensive Plan in relation to the build-out analysis presented in the Design Plan was performed in determining the potential impacts that are anticipated as a result of continued development of the southern part of New Hartford following current zoning patterns (No Action Alternative) or one of the three growth management alternatives presented in this GEIS.

Where specific studies were performed in support of this GEIS, i.e. traffic study, the methodology that was followed is addressed accordingly in this GEIS in Chapter 4.14 – Environmental Setting (Transportation).

A review of potential impacts to the Study Area as set forth under SEQRA at 6NYCRR Part 617 was conducted and consisted of looking at the Study Area with respect to the built and natural and community services. These three main categories established the framework by which further development of the Study Area was analyzed for impacts. Specific to the review of impacts and particular to this GEIS is a discussion pertaining to the implementation of fees in lieu of mitigation (FILM), as a medium by which the Town of New Hartford may be able to recover costs associated with the identified impacts to infrastructure and transportation networks, for example, that are a result of further development. Chapter 3 – Environmental Impacts and Mitigation Measures of the Growth Alternatives presents this possible option. Further, the Findings Statement prepared in support of this GEIS presents a proposed and voluntary FILM schedule of projects and unit rates that can be presented to developers by the Town as a means to recover costs associated with necessary improvements as a result of continued growth and development of the southern area.

2.3 Purpose of Design Plan for the Southern Area

The purpose of planned growth management for the southern area of the Town of New Hartford is to guide future development toward a sustainable future in which the settled areas of the community, i.e. the hamlets, are planned with added density and the Town's signature topography and critical viewsheds are preserved. The Design Plan acknowledges that the Town of New Hartford's southern area is a residential destination of choice. However, it also acknowledges that the environmental impact of continued unmanaged growth has moderate to severe consequences. It is impractical to halt the growth and consequent development of the area, so the Design Plan seeks to recommend a development pattern that will limit both the geographic scope and severity of the potential adverse impacts of continued development. The design approach emphasizes mixed uses and an access and road hierarchy that incorporates access and traffic calming. The hierarchy of roads means that roads are classified and identified based on usage, ability to accommodate traffic, and overall road dimensions and conditions. By identifying and establishing this road hierarchy of existing roads, management of growth in the southern area can be done with the least amount of impact to existing road capacities. Rather than containing Sauquoit Creek, the Design Plan anticipated increasing its role in the community as a storm water management system and a recreation and quality of life amenity. The design principles are based in ecological principles and are inherently sustainable.

2.4 Design Principles

Design principles are the guiding philosophy behind the growth management plan. The principles are discussed below.

2.4.1 Define Growth Boundaries

Based upon the policies, goals and objectives and the Future Land Use Plan of the Comprehensive Plan, create a well defined growth boundary that delineates where and how new development and redevelopment should occur in the future. It also establishes where new development is to be limited as determined through revised zoning.

2.4.2 Develop Desirable Density Patterns

Encourage a compact form of development within Washington Mills and Chadwicks centers; increase the density of development within these areas in a manner consistent with existing character; and decrease density outward from the centers

2.4.3 Retain Mixed Use Centers

Mixed use centers exist within Washington Mills and Chadwicks. This particular design principle is to maintain these mixed uses while also refining the look of the hamlets via streetscape design and defining the "main streets" in each hamlet. The 'main street' will serve as focal points of the community, linking the centers to create a critical mass that promotes civic life and economic activity. In turn, this will result in establishing a unique character for Washington Mills and Chadwicks.

2.4.4 Manage Storm Water Impacts

Within the hamlet areas, the design plan includes areas where stormwater can collect slowing the rate at which the water is released into Sauquoit Creek. The Plan is also consistent with the recommendations of the Stormwater group. The Stormwater Group has determined that the best way to manage future stormwater impacts is to limit development in the upland areas to large lot sizes with minimal building and surface coverages. This will allow stormwater to filter into the surface and not be channeled into the waterways. Limiting development will also preserve the effectiveness of stormwater facilities created downstream.

2.4.5 Protect Natural Heritage Features

Protect natural heritage features and environmentally significant lands from development in a manner that enhances environmental quality across the community; integrate protected lands into development patterns to enhance their recreational value and the character of new development; and establish minimum buffer zones between new development and protected lands. Natural heritage features are natural elements of the southern area that have helped define the character and history of New Hartford.

2.4.6 Preserve Agricultural Land

Preserving farmland, open space and the rural character of the town of New Hartford are community goals in New Hartford. The Design Plan emphasizes the preservation of agricultural land and open space outside of the growth boundary reflecting the community's wishes. The Town is exploring the possibility of doing a Farmland Preservation Plan with a neighboring community.

Alternative #4 of the GEIS recommends that areas outside of the Growth Boundary should be designated Agriculture/ Preservation. Under this designation, as with any similar action involving changing permitted land uses, the uses that currently exist would be "grandfathered" and allowed to continue until certain circumstances change their status. Areas that have been subdivided and where development has already occurred or is occurring could be developed as platted.

A minimum lot size should be established that would be large enough to allow farming activities. Alternatives 3 and 4 recommend minimum lot sizes of 10 and five acres, respectively. These large lot sizes raise concerns among land owners about their ability to develop their land. There are two methods available to recompense owners for the loss of the ability to subdivide and develop at traditional suburban densities. They are: Purchase of Development Rights (PDR) and Transfer of Development Rights (TDR). Both of these strategies allow farmers to receive market value for their development rights while allowing them to continue to farm their land. In conjunction with these strategies, the Town will need to discourage development of these areas by not extending water and sewer lines to them.

Cluster Developments – One strategy that can preserve open space and agricultural areas, while still allowing moderate development is clustering. By clustering homes together, open space can be preserved and some cost savings realized. On a 100-acre development area zoned for five-acre lots, 20 homes could be developed. By developing all 20 homes on 20 acres, 80 acres of farmland could be preserved.

Purchase of Development Rights – With PDR, the Town or a land trust or other entity would purchase the right to develop at the pre-agricultural preservation density value. The land would remain open, or in farming. For example, assume a hypothetical owner has 100 acres. The land is zoned for one acre lots and the value of each acre is \$2,000. The Town could purchase the rights to develop the land for \$200,000. A conservation easement would be placed on the land. The land can still be farmed or remain open, but cannot be developed in the future. Federal and state matching funds programs are available to assist communities in raising funds for these purchases.

Transfer of Development Rights – TDR allows land owners to sell development rights to areas where densities higher than those allowed under local zoning are permitted. This is possible in areas that are developing quickly and are highly desirable by potential buyers of more units than are allowed under the current zoning. Under this strategy, a “sending area” is established in the rural portion of the Town and a receiving area is established in the desirable area. Under the hypothetical scenario established above, assume the land belonging to the owner of the 100 acres was previously zoned for one acre lots. The owner may choose to sell the 100 acres of development potential, 100 units, to the developer of housing in the desirable area. The developer is developing 50 acres that is zoned for two units per acre for a total of 100 units. By purchasing the development rights, the developer would be able to build 200 units on the 50 acre plot.

There are several different methods with which to administer transfer of development rights. Development rights can be banked by an agency, and then sold to willing developers. This method involves an initial investment. Development rights can also be traded in an open market system based on supply and demand. Either method would need to be administered by an agency. The loss or gain of development rights will need to be recorded on the deeds of the properties involved.

2.4.7 Create an Integrated Circulation Network

Create a circulation network that organizes development patterns and creates a unified and integrated system of vehicular, pedestrian and bicycle circulation; create a road hierarchy system based on function and a desirable community design character; and promote connectivity throughout the community.

Road hierarchy is essentially the categorization of roads according to capacity for traffic. By knowing the category of the roads in the southern area and the available capacity based on roadway design, the management of growth can be better facilitated with a design plan that works in matching land uses with the capacity of adjacent roads.

2.4.8 Develop Walkable Neighborhoods

Develop walkable neighborhoods by creating safe, pedestrian friendly streets, link neighborhood features/destinations together with a connected system of sidewalks, trails and greenbelts; connect to commercial areas; connect to regional trail system.

2.4.9 Respect Significant Views

Protect and preserve significant landscape views; ensure new development does not diminish the quality of significant views and the predominant landscape character of the community

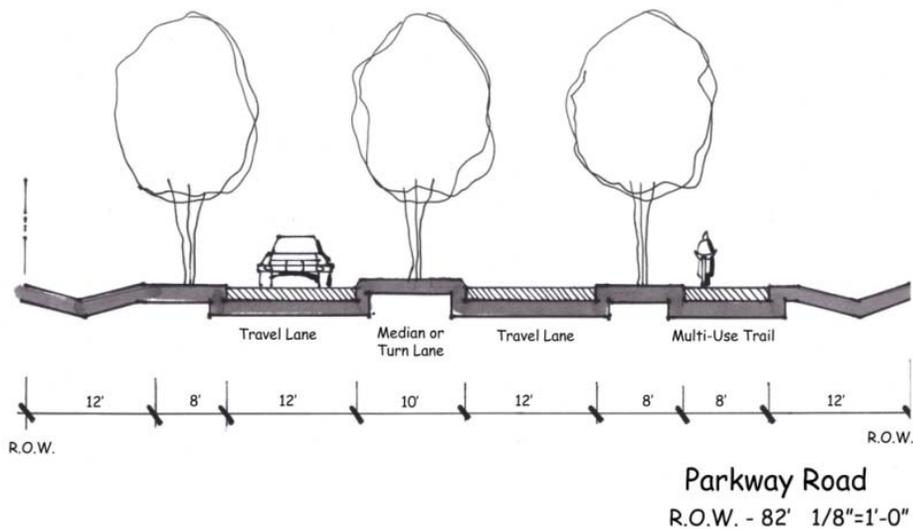
2.5 Sustainable Community Design

The Design Plan is a concept for managed growth within a defined area in the Study Area. Further, it defines the two hamlets in the southern area, Washington Mills and Chadwicks, as areas where development should be concentrated in a mixed-use village-center style incorporating concepts of walkable sustainable communities. Situated as they are on Sauquoit Creek, the two hamlets will more readily accommodate mitigation measures to remedy impacts to the natural drainage. Further, both hamlets are already part of the regional transportation network, with connections to NYS Route 8. Figure 2.5-1 shows the concept for the managed growth Design Plan. It focuses the management of growth through designation of an area that surrounding each hamlet while also accounting for impediments, such as the Sauquoit Arterial and topographical constraints. Outside of the designated area, the conceptual Design Plan anticipates a much less intense level of development.

How the southern area will grow within the conceptual framework of the Design Plan will also be guided by development levels of the regional highway, street and road system. The conceptual Design Plan considers the existing roadway pattern with possible future connectors upon it. A circulation hierarchy and street pattern concept further refines the transportation and circulation system into a road hierarchy. The roadway hierarchy that is part of the growth management concept Design Plan, shown in Figure 2.5-2, includes the following: parkway; rural road and rural roads that weave around the agricultural lands and open space areas for immediate access within these areas. The proposed Design Plan further calls for community streets that will link to the parkways, however will not cross the parkways, rather just provide access to and from each parkway that eventually feed into the connector roads paralleling Route 8. The gray line running up the center of the area is Route 8. Brown lines on either side of the gray line are the existing roads that will become village center connectors. The green textured areas are the agricultural and open space ‘fingers.’

A series of road sections were also developed to guide consistent and cohesive development of the circulation system.

Figure 2.5-1 Road Sections – Parkway Road



**GROWTH CONCEPT
GEIS STUDY
TOWN OF NEW HARTFORD**

Figure 2.5-2 Growth Concept

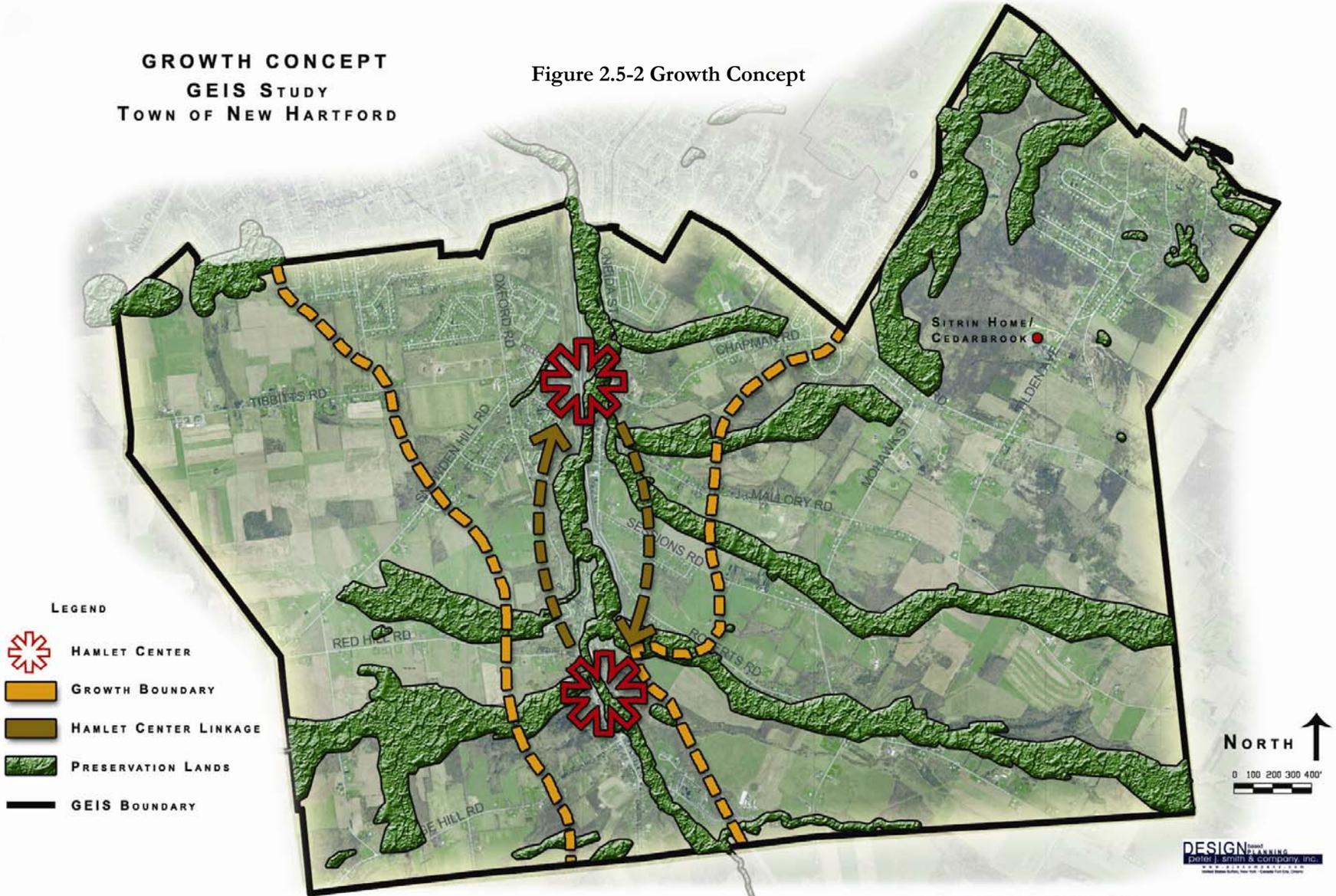
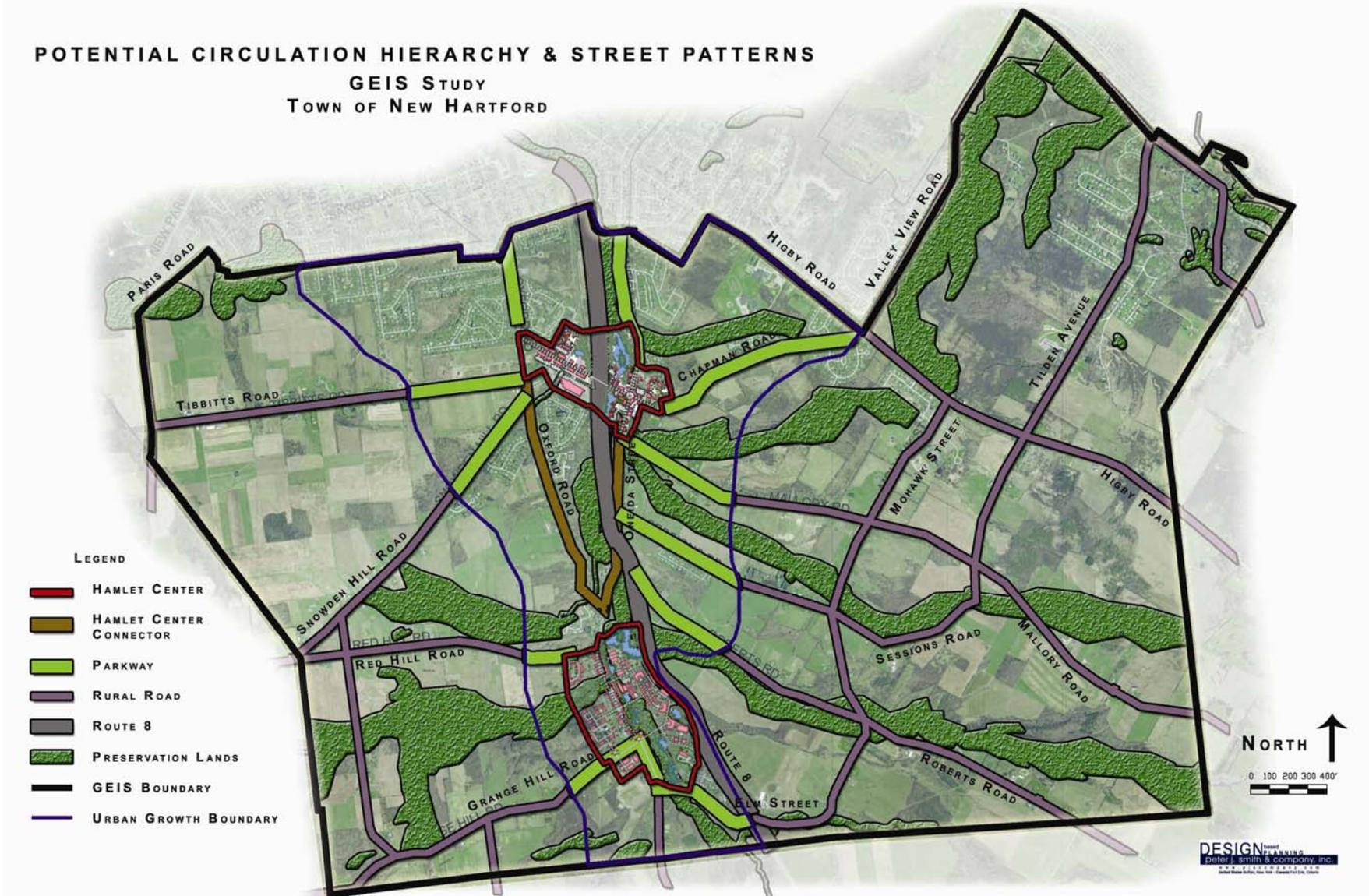
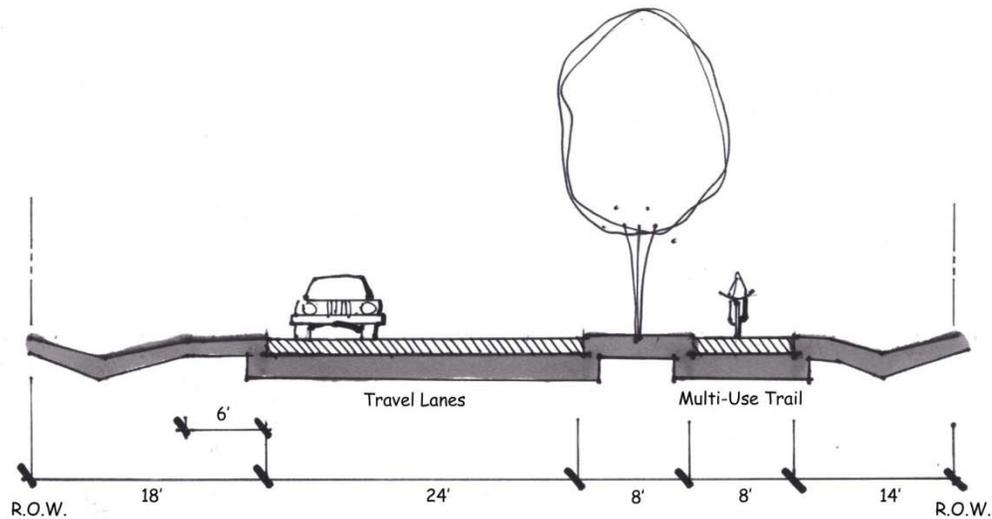


Figure 2.5-3 Circulation & Street Hierarchy



The Parkway cross section shows how a possible connecting road between the hamlet centers could look, establishing guidelines for future parkway road construction. The parkway will double as a trail system through-out the greenbelt, featuring a parallel trail separated from the roadway by a six-foot buffer. The two 12-foot travel lanes are separated by a 10-foot median which can be converted to use as a turn lane as appropriate.

Figure 2.5-4 Road Section – Rural Road

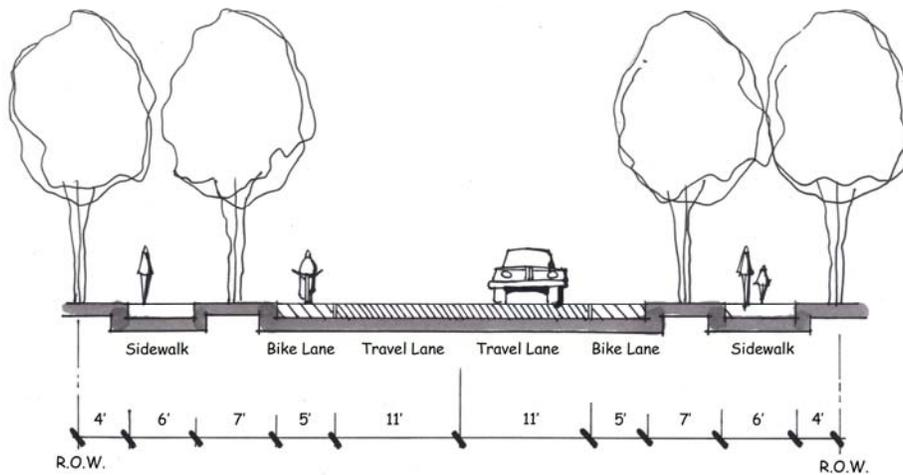


Rural Road

R.O.W. - 72' 1/8" = 1'-0"

The concept for rural roads enhances the existing network with the addition of an eight-foot multi-use trail that is buffered from the travel lanes by an equal in width eight-foot buffer.

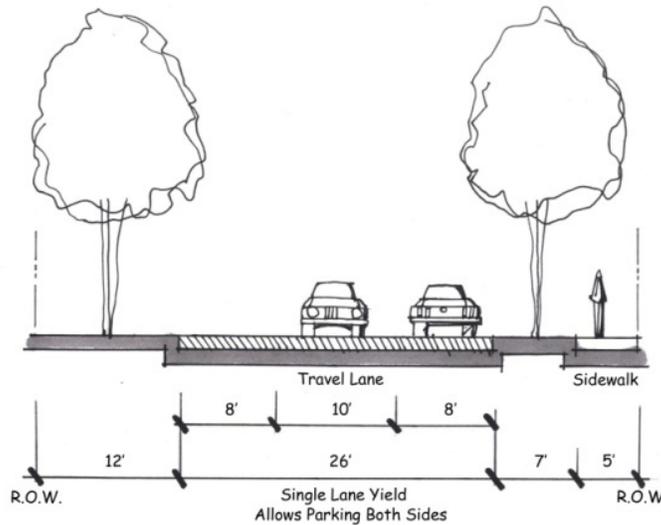
Figure 2.5-5 Road Section – Hamlet Center Connector



Hamlet Center Connector

R.O.W. - 66' 1/8" = 1'-0"

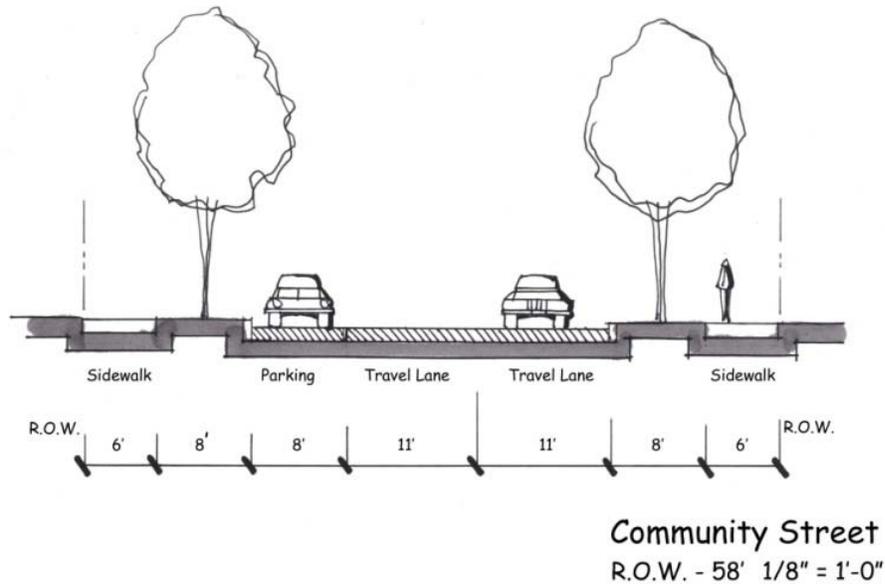
The Hamlet Center Connector roads are developed from the existing network, enhanced with the addition of the multi-use trail. The overall 66-foot right of way features two 11-foot travel lanes – without turn lanes – an adjacent five-foot wide bike lane on each side and a six-foot sidewalk separated from the bike lane by a seven-foot wide buffer.



Neighborhood Street

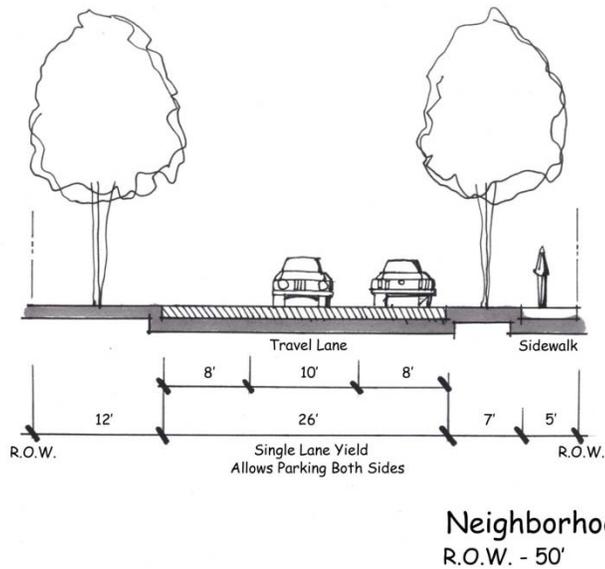
R.O.W. - 50' 1/8" = 1'-0"

Figure 2.5-6 Road Section – Community Street



The concept for community streets within residential areas features a travel lane in each direction; with parking on one side only. A six-foot sidewalk on each side is separated from the travel lanes by an eight-foot buffer.

Figure 2.5-7 Road Section – Neighborhood Street



The typical neighborhood street concept for neighborhood residential areas includes a single travel lane allowing for parking on both sides. The travel lane is 10 feet in width with eight-foot parking lanes. A five-foot sidewalk is buffered from the street by a seven-foot buffer on one side; on the other a 12-foot planting buffer provides a screen.

2.5.1 Hamlet Centers

The two hamlet centers in the study area, Washington Mills and Chadwicks, are existing historic small commercial and residential centers.

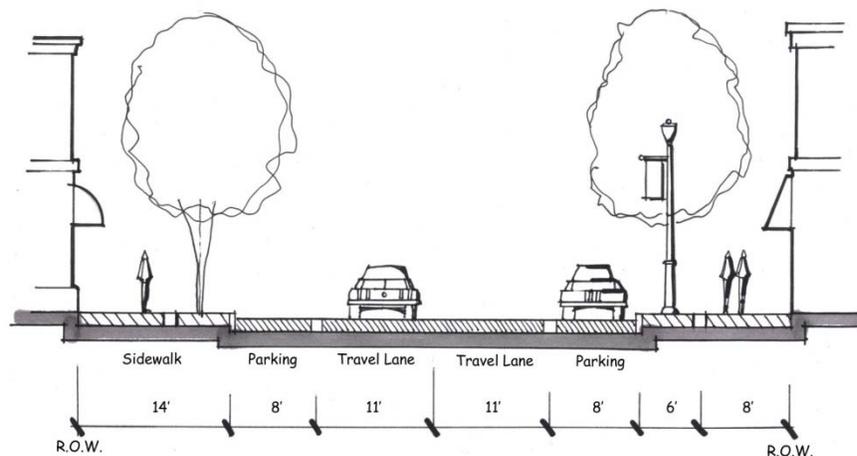
2.5.1.1 Washington Mills

Washington Mills, located in the north central portion of the study area, is impacted by commercial development pressure encroaching onto its residential areas, as well as intense storm water impacts stemming from its location on the Sauquoit Creek and existing development patterns. As development increases in the hamlet, traffic has become an issue. Mitigation options at signalized intersections include widening for additional through lanes, widening for turn lanes, and signal phasing and timing modifications. An access management program may also be considered to consolidate turning vehicles at specific locations.

Other improvements recommended by the Plan for Washington Mills include:

- Realigning Tibbitts Road where it meets Kellogg into a neat “T” intersection to enhance traffic flow and improve safety
- Linking “backlot” parking to bring commercial development to the street for a more urban streetscape while providing circulation and ample parking for retail tenants
- Development of a naturalized storm water management system of ponds
- Development of gateways into the hamlet for visual appeal and traffic calming
- Development of two-story medium density and mixed-use commercial and residential areas, including development closely associated with the water
- Linking the entire hamlet with a surrounding multi-use trail

Figure 2.5-8 Washington Mills ‘Main Street’ Section



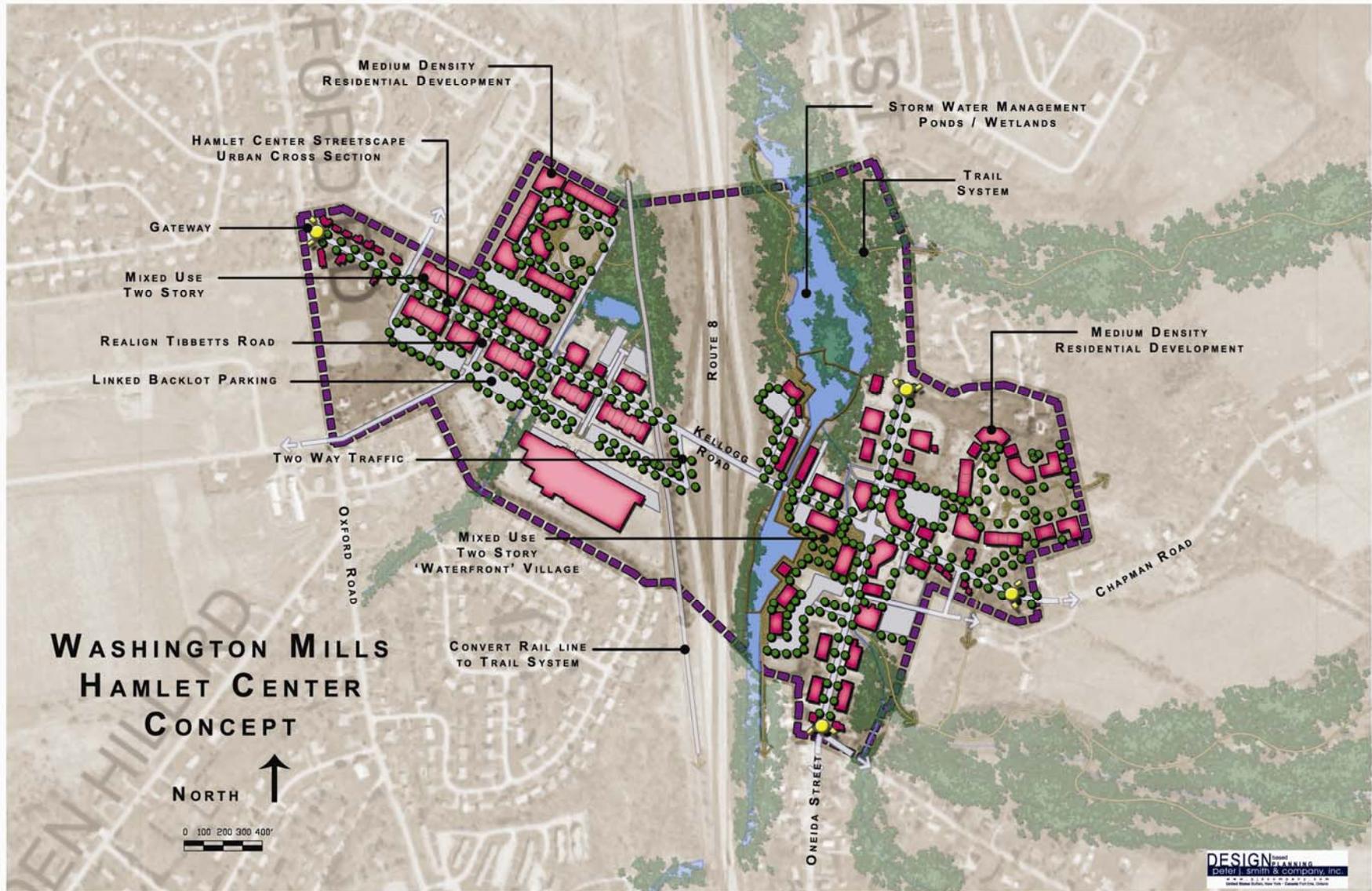
Washington Mills Main Street

R.O.W. - 66'

1/8" = 1'-0"

For Washington Mills’ ‘Main Street’ – Kellogg Road – a typical section shows a travel lane in each direction and an eight-foot parking lane on each side. A sidewalk/buffer area on each side is 14 feet, eight feet for sidewalk and six for trees, lights, planters and street furniture.

Figure 2.5-9 Washington Mills Design Concept

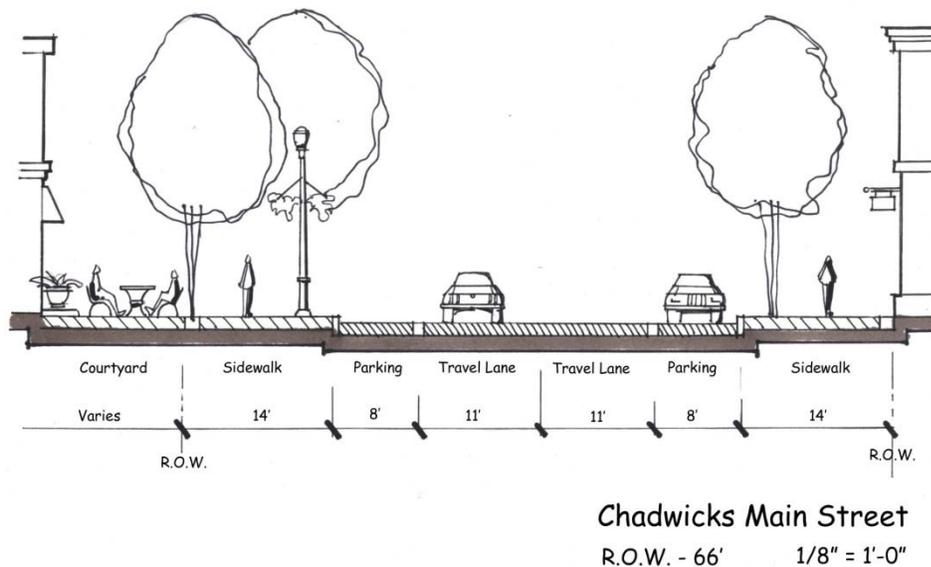


2.5.1.2 Chadwicks

The goals for the Design Plan for the Hamlet of Chadwicks are to bring density to the hamlet and revitalize the existing historic hamlet center. Unlike Washington Mills, Chadwicks has a more neighborhood-type appeal with residential and commercial uses somewhat comfortably mixed along its main street, Oneida Street. Chadwicks has a considerable amount of undevelopable land with steep slope topography and this, and its location on Sauquoit Creek, results in intense storm water runoff impacts. To mitigate storm water impacts, the Design Plan for Chadwicks suggests replacing the existing mobile home park with a storm water management system of ponds and wetlands and preserves a green corridor throughout the community for this purpose. It is to be noted that the area where mobile homes currently exist is within the floodplain of the Sauquoit Creek, and as such is compromised in providing a secure, flood-free, residential area. The Town currently has no plans to remove the mobile home park in the near future. The Town of New Hartford should research the potential for replacing the existing mobile home park with a similar community in another part of Town that will be least likely to further incur impacts.

The Town of New Hartford could transition these areas to its preferred future zoning to prevent additional mobile homes from moving into them while allowing the use to continue as grandfathered. If the Town wished to change the land use more, it could acquire the mobile home parks through eminent domain. Stormwater facilities are needed for the general safety of residents living along the Sauquoit Creek. This would then dictate the need for a relocation plan. The Town of New Hartford will identify and develop a transition plan suitable for implementation over a period of time such that residents within the mobile home community do not become displaced.

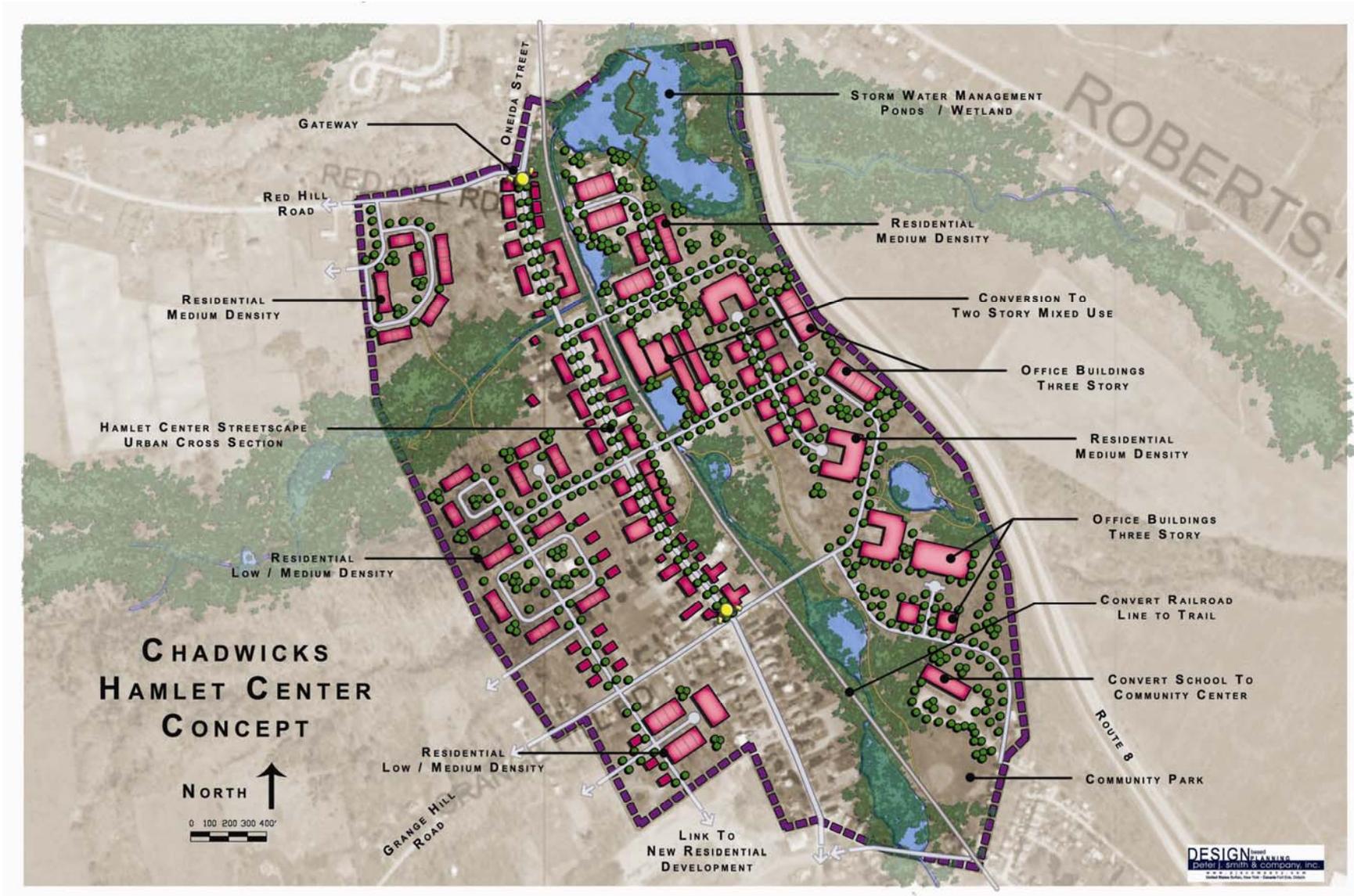
Figure 2.5-10 Chadwicks ‘Main Street’ Section



For Chadwicks’ ‘Main Street’ – Oneida Street – a typical section shows an 11-foot travel lane in each direction with an eight-foot parking lane on each side. A buffer area on each side is 14 feet and consists of sidewalks, trees, lights, planters and additional buffering. Where appropriate and space is available, the section accommodates street furniture, additional landscaping and planters in a courtyard area of varying width. This area lies outside of the established 66-foot right of way.

The graphic concept appears as Figure 2.5–11.

Figure 2.5-11 Chadwicks Design Concept



2.6 Zoning Changes needed in order to implement the Recommendations of the GEIS

The GEIS recommends that the Southern Area be developed based on the Alternative 4, which is mixed use hamlet areas surrounded by residential neighborhoods within the Design Plan boundary with moderate agriculture preservation outside the Design Plan Boundary. Development outside the Design Plan boundary would be limited. It will be necessary to update the zoning regulations in order to implement the recommendations of the GEIS. The existing zoning document should be organized in a way that is easy to understand for all those who need to use it. The zoning districts need to reflect the future land uses plans of the comprehensive plan and the GEIS. A new zoning ordinance will focus on the character of development through design standards instead of the existing use base code. In addition, regulations need to be in place to standardize the amount of fees based on expected impacts. The following measures outline the changes that need to be made to the existing zoning ordinance to achieve the goals of the Comprehensive Plan and the GEIS.

2.6.1 General Document Organization

The Zoning Ordinance should be organized in a way that is easy to navigate and easy to understand to all users. The following is an outline of the organization of the new zoning ordinance.

- Quick Reference Guide
- Table of Contents
- General provisions
- Zoning Map, Street Hierarchy Map
- Land Use Summary Chart by Zone and Permit Type
- Dimensional Requirement Chart by Zone
- Agricultural Districts
- Residential Districts
- Mixed Use Districts
- Special Districts (Planned developments and overlay districts)
- Incentives
- Additional Regulations for Specific Uses
- Regulations applying to all Districts
- Design Standards
- Non-conformities
- Procedures for Approval
- Review Authorities and Administration
- Definitions
- Appendix

2.6.2 Zoning Changes

This section discusses potential zoning changes that could implement the Southern Area GEIS. Actual implementation of zoning would necessarily be subject to review and analysis as part of an anticipated revision of the Town's zoning expected to begin in 2009 to make it consistent with its new Comprehensive Plan and Future Land Use Plan. Under an anticipated revision of the zoning that would bring it into conformance with the Comprehensive Plan and Design Plan, all existing zones should be replaced with three new zones. These zones would control the type and density of development within the hamlets and the Design Plan boundary as well as outside of the boundary.

2.6.3 Hamlet Zones

The hamlet areas are the areas of highest density within the boundaries of the Design Plan. The existing commercial, industrial, and higher density residential zones within the hamlet designated areas would be zoned as Hamlet Mixed -Use. The mixed-use zone will permit a variety of uses including commercial, residential, and some industrial uses. Compatibility between uses will be controlled through design standards.

2.6.4 Residential District

The area inside the Design Plan boundary and outside of the hamlets should be zoned as one residential district. Currently there are three residential Districts with varying densities and a large portion of agricultural residential area. A single residential district would have an overall density maximum. Transition between the varying densities would be controlled through design standards.

2.6.5 Agricultural District

The area outside of the Design Plan boundary would be designated as an agricultural zone. Limited development would be allowed in this zone. Minimum lot sizes would be increased. There would be an emphasis placed on the preservation of farmland and natural resources. Strategies to acquire and protect land, such as transfer of development rights and purchase of development rights would appropriately be applied here.

2.6.6 Design Standards

Traditional zoning ordinances, like the Town's current ordinance regulates uses and densities within designated areas. Design standards control the types of development within the community. Design standards are needed in order to assess the cost of improvements within the public realm. Under the aforementioned zoning revision, design standards could apply to the whole Town, a district or to a specific use. The design standards would be contained in one section of the ordinance. Specific standards for each of the zoning districts, or use would be referenced from the corresponding section of the code. The design standards would be presented in a matrix for ease of use.

Following are examples of design standards that could be used. The list does not represent all potential design standards.

Design Standards Applying to all Districts

Design standards that would apply to all districts would include screening of air condition systems, parking lot siting and design, landscaping requirements, and fences.

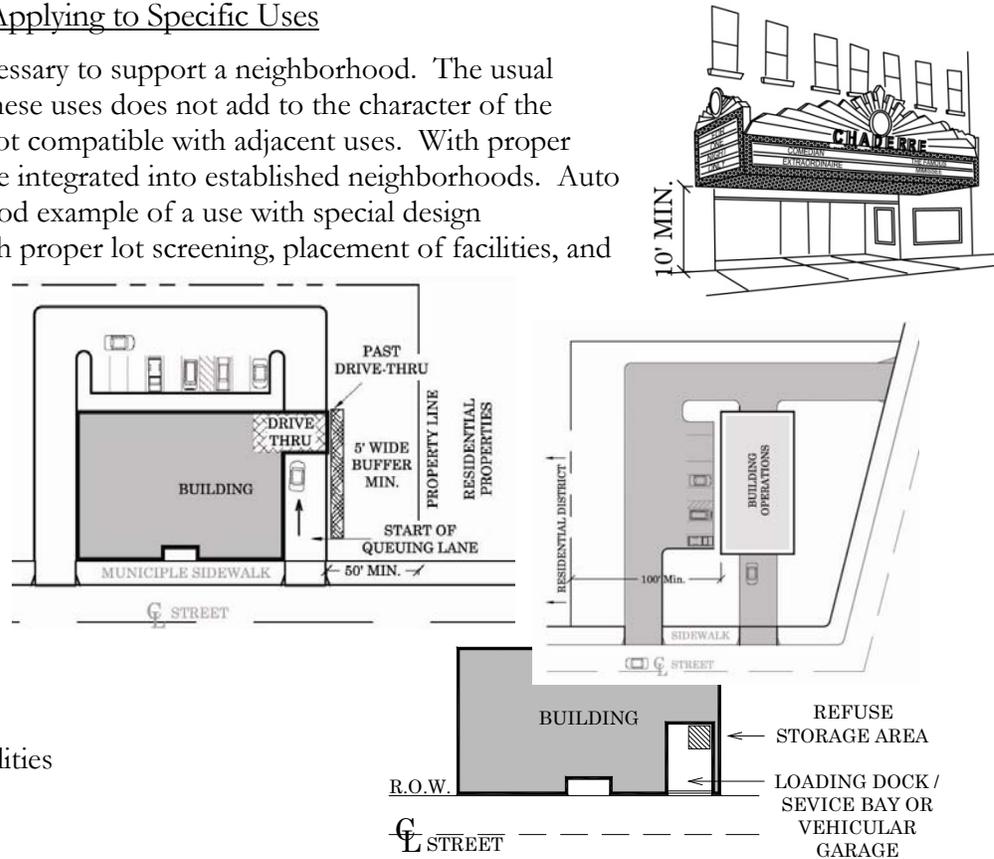
Design Standards Specific to Districts

Design Standards will vary among the several districts. Design Standards for the Hamlet Districts will establish a village-like character for the Chadwicks Hamlet Center and a Historic Center for the more commercially developed Washington Mills Hamlet Center. Each Hamlet area will have specific standards that create their distinct character. There would be different building designs as well as site requirements that would be created in a residential or agricultural zone.

Design Standards Applying to Specific Uses

Certain uses are necessary to support a neighborhood. The usual design of some of these uses does not add to the character of the community or are not compatible with adjacent uses. With proper design, they could be integrated into established neighborhoods. Auto related uses are a good example of a use with special design considerations. With proper lot screening, placement of facilities, and the design of the structures, these uses could be compatible with surrounding uses.

- Auto Washes
- Drive-Thru's
- Theaters
- Storage Facilities



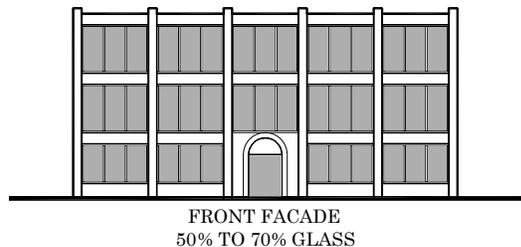
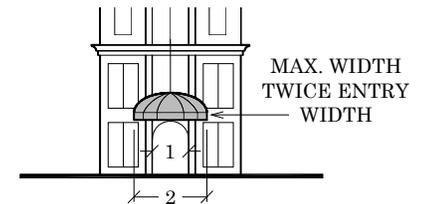
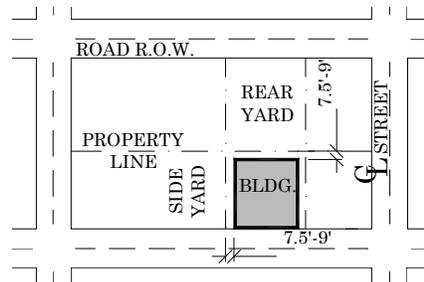
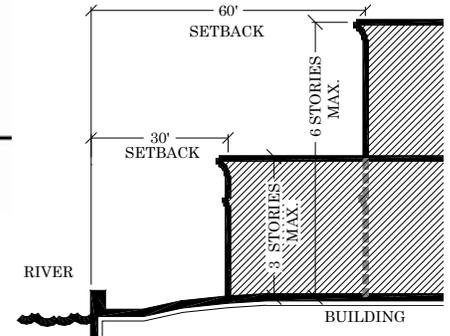
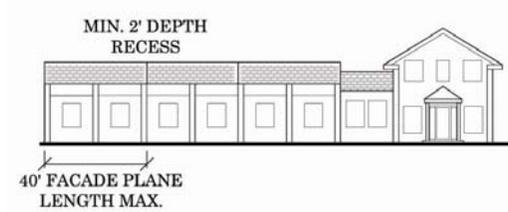
2.6.6.1 Categories of Design Standards

Design standards can be broken down into Building, Site, Appurtenances, Street, and off-street amenities. All of these types of design standards can apply to any or all of the previous categories.

Building

Building design standards control the design of all structures. They can be expressed as a relationship to adjacent buildings, architectural style, building materials, roof style, massing, amount of window coverage on the façade, façade changes, or the orientation of the building to other building or to the street.

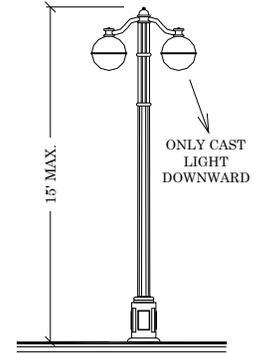
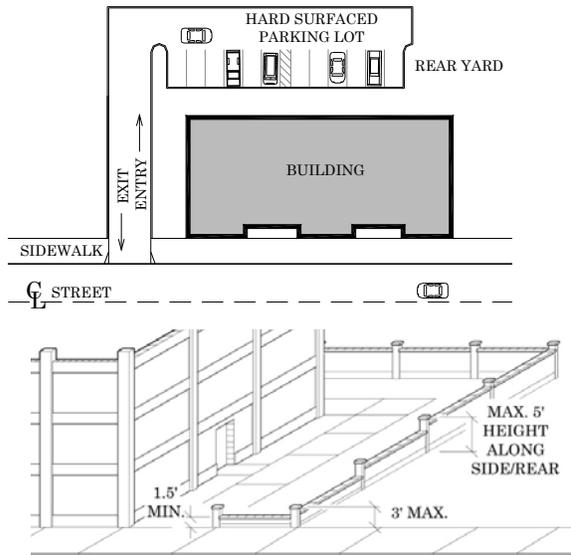
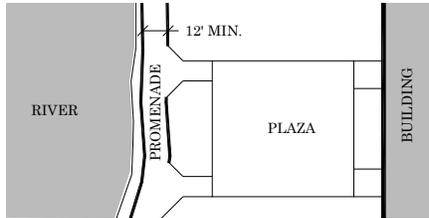
- Form & Mass
- Lot Size & Coverage
- Height
- Length to Height
- Ratio
- Orientation
- Setback
- Façade Composition
- Windows
- Entrances
- Roofline
- Material & Color
- Refuse Storage
- Signage
- Awning



Site

Site Design standards apply to the lot. Landscaping requirements, lot coverage, parking design and location, driveway and walkway design would be covered under site design standards.

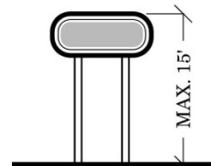
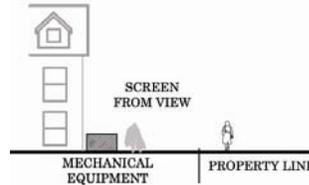
- Building Parking
- Parking Lots
- Fencing / Walls
- Promenades / Plazas



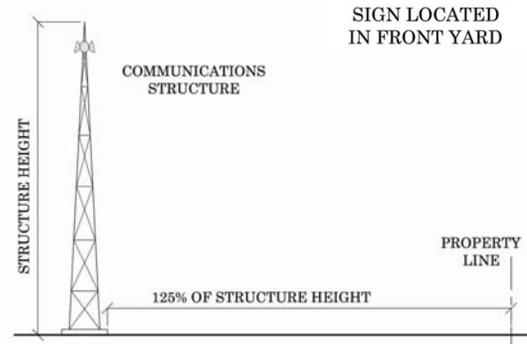
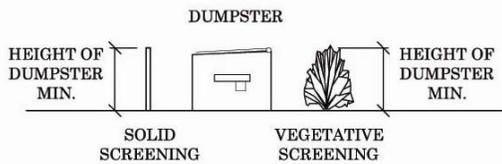
Appurtenances

Some accessory structures also require design standards. Screening of air conditioning systems, fence design, sign designs are examples of these types of design standards.

- Communication Towers
- Mechanical Equipment Setback
- Mechanical Equipment Screening
- Dumpster Screening
- Stand Alone Signage



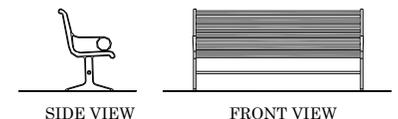
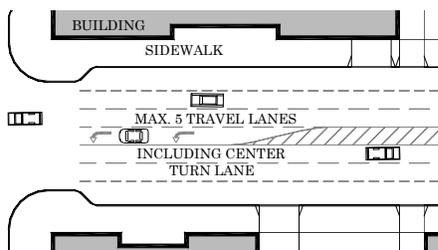
SIGN LOCATED IN FRONT YARD



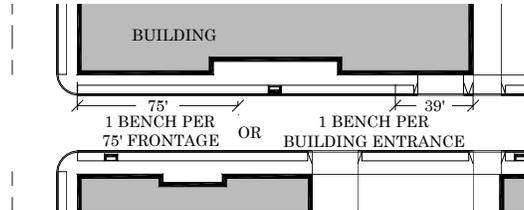
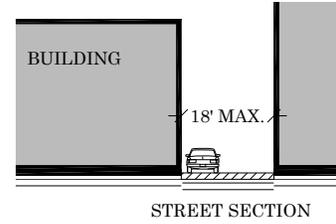
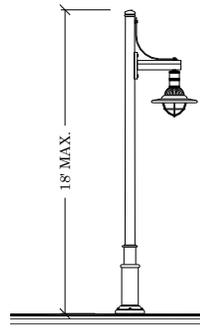
Street

The design of streets should be standardized for all new development and improvements. Street design would be based on a hierarchy of street function. Such standards would include width of the roadway, depth of material, existence of a median, curbing and shoulder design, and on street parking facilities.

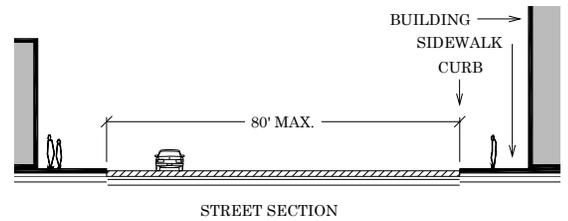
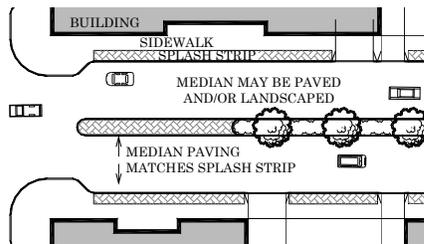
- Vehicle Zone
- Pedestrian Zone
- Travel Lane



- Bicycle Lane
- On-Street Parking
- Median
- Pedestrian Crossing
- Splash (Development) Strip
- Street Trees
- Light Fixture
- Tenant Kiosks
- Benches
- Trash Receptacles
- Bicycle Racks
- Bollards



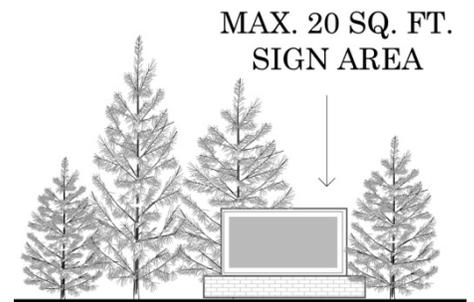
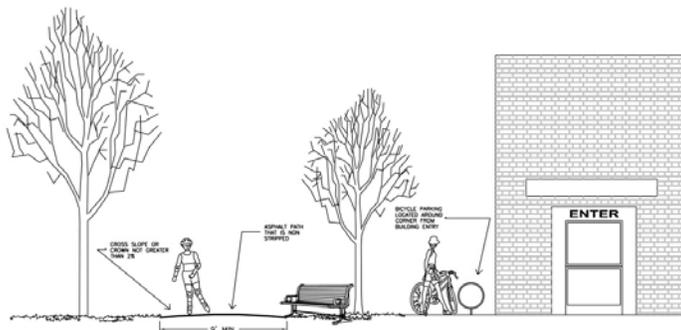
CITY STREETS



Off-site Amenities

Off site amenities are those features that do not pertain to an individual property. These design standards create construction standards for amenities that will need to be constructed to serve new developments as a whole. The standardized designs will justify each new developments portion of expense for overall system improvements. Design of trail systems and storm water mitigation measures will control the quality and appearance off these amenities will benefit the surrounding community.

- Off-site Signage
- Storm water Detention Basins
- Trails



3.0 Environmental Impacts and Mitigation Measures of Growth Alternatives

This section of the GEIS establishes current land use conditions and then analyzes the four growth alternatives for development patterns. Two separate analyses were completed; one for maximum build-out potential and one for the likely development that will be experienced over the next 20 years. The analysis examines not only the amount of new development, but also the distribution of the development. The results of the build out analysis are then used to examine the potential environmental impacts that could occur. The impacts that are examined include impacts to the built environment (roadways, storm water and sanitary sewer treatment); natural environment (water quality and supply; air and noise quality; visual; and flora/fauna); and community services (emergency services, schools, and recreation). Each of these categories is discussed in detail as it relates to the alternatives for continued development of the southern area of New Hartford. Where possible, mitigation measures are presented that can be implemented to minimize and/or prevent the identified adverse impacts that may be created by the development alternatives.

3.1 Community Character and Land Use

This section provides a comparison of each Alternative in terms of number of residential units and commercial space that could be realized under full build-out.

The Study Area had 3,331 households in 2000. The average household size was 2.5 people, comparable with that of the Town (2.3 people), the County (2.4 people) and the State (2.6 people).

Census 2000 data indicates that the Study Area had relatively newer housing stock than the Town, County and State. Almost 40% of the housing units in the Study Area were built in 1970 or later years compared to 34% in the Town, 26% in the County and 26% in the State.

Between January 2000 and 2007, 148 building permits were issued for new residential construction (130 single-family units, 10 town houses and 8 mobile homes). Based on the number of households in 2000, the number of new units represents an average annual growth rate of .552%. At this rate, it can be presumed that by 2030, there would be an additional 448 residential units in the Study Area.

3.2 Alternatives

The GEIS process examined the following development alternatives relative to the Study Area. The existing conditions established a baseline from which the other Alternatives were then compared. This section is provided to portray each Alternative concisely such that a review of the environmental, social, and economic impacts could be performed. The following section provides the assessment of impacts and mitigation measures.

3.2.1 Alternative 1 –No Change to Current Zoning

This alternative is for development of the GEIS Study Area following current conditions and existing zoning without following a design plan. Development following this Alternative allows for the continued pattern of development that is presently occurring in an uncoordinated fashion on vacant and agricultural parcels. If development of the southern area of New Hartford progresses under this Alternative, the potential for densification of the hamlets and fostering a small town environment would be diminished.

Vacant, large tracts of land could continue to be developed in conformance with current zoning allowances. Most of the land outside of the hamlets in the Southern Area is zoned “A” or “RA”. These zoning districts permit development with minimum lot sizes of 1.38 acres and 1 acre respectively. Some areas outside the Growth Boundary are zoned for even higher density residential development.

3.2.2 Alternative 2 – Design Plan, Suburban Growth Outside Boundary

This alternative is for controlled growth of the GEIS Study Area following the Design Plan that establishes controlled growth within the Growth Boundary. Alternative two also allows suburban style development to continue outside of the Growth Boundary. Development following this Alternative would allow for some densification of the hamlets to foster a small town character. Commercial development would be designated at specific areas within each hamlet. However, this Alternative would also allow for suburban style development to occur outside of the Growth Boundary at a density of one unit per acre. The demand for housing units would spread out over the whole Southern Area of the Town. Development under this Alternative, while creating a small town environment and walkable community, would be slow to develop a concentration in and around the hamlet areas.

3.2.3 Alternative 3 – Design Plan, Agricultural Preservation

This Alternative is for controlled growth of the GEIS Study Area following the Design Plan, however density would be concentrated to those areas within the growth boundary. Outside of the Growth Boundary, agricultural preservation measures would be employed, such as transfer of development rights or clustering so that new development outside of the Growth Boundary would occur at an average of one lot per ten acres of land. Development following this Alternative provides for future establishment of homes in a coordinated manner. Similar to Alternative 2, development following this Alternative fosters a small town character within the hamlets. Commercial development would be designated at specific areas within each hamlet. In addition, the demand for new development would be concentrated within the growth boundary and allow for a greater densification of these areas. Outside of the Growth Boundary, much of the agricultural land would be preserved.

3.2.4 Alternative 4 – Design Plan, Moderate Agricultural Preservation

Alternative Four is similar to Alternative Three in that it concentrates development in and around the hamlets while preserving agricultural land and open space outside of the growth boundary. This Alternative attempts to balance the desire for walkable communities, while preserving the owners’ rights to develop their land and create a wider range of housing choices. The density outside of the growth boundary would be permitted at an average of one lot per five acres of land. Agricultural preservation strategies would still be encouraged.

3.3 End-Year Build Out Analysis

3.3.1 Introduction

The Town of New Hartford is going through changes that will impact its future character. This GEIS is designed to estimate the cumulative impacts of the growth that has already taken place in the southern portion of the Town and to determine measures for mitigating the impacts of continued, albeit managed, growth. Future growth should be consistent with the vision for the future of the Town as described in the town's new Comprehensive Plan, and also designed to least impact the ongoing issues related to storm water management, traffic, visual appeal and other related subjects in the southern portion of the Town of New Hartford. To help address these issues, the GEIS includes four growth alternatives that illustrate how potential growth could occur in the Town.

The analysis is intended to illustrate how the southern portion of the Town of New Hartford could develop under various alternatives. Because there are infinite variations for future growth in the Town, four likely alternatives were documented based on specific planning assumptions and principles. These alternatives have been developed to guide the Town's planning and decision-making processes as new densities are established for an updated Zoning Ordinance.

To determine potential build-outs associated with each growth model, land is assumed to be a finite resource in the Town. The land carrying capacity will dictate the amount of development – residential, commercial/industrial – that could occur in the Study Area. The analysis examines the maximum capacity that could be built assuming an unlimited demand. It sets up a capacity ratio that will be used in a later analysis which is designed to determine the likely build out by the year 2030. Three of the four alternatives examine the development potential based on the Design Plan for the hamlets and concentrating development around them. The three alternatives differ only in the density permitted outside of the growth boundary. The other alternative examines the development potential based on existing zoning districts and the densities permitted within them.

The GEIS Study Area has ample vacant land that can still be developed along with potential for medium density residential mixed with commercial in the hamlets of Washington Mills and Chadwicks. The intent of this analysis is to show how development can be managed with different land use policies. In this analysis, a baseline was first established which details the current amount of development in the southern area. This baseline was then added to the potential for new development in each alternative. The four alternatives were analyzed for their overall potential development and consist of the following:

- No Change to Existing Zoning
- Design Plan with Growth Boundary, Suburban Development outside Growth Boundary (1 acre lots)
- Design Plan with Growth Boundary, Agriculture Preservation outside Growth Boundary (10 acre lots)
- Design Plan with Growth Boundary, Moderate Agriculture Preservation outside Growth Boundary (5 acre lots)

3.3.2 Methodology

The build-out analysis was completed using a geographical information system (GIS). GIS technology organizes geographic data into “layers;” for example, a community’s zoning map, roads, utilities, commercial areas and subdivisions could each be in a separate layer. Depending on which layers analysts want displayed on the maps of a specific geography, the layers are turned on or off. Analysts can also create new layers grouping specific data together for special analysis.

To create a layer that could be analyzed for the build-out, a land use parcel layer was intersected with a constraints layer. The constraints layers contained wetlands, steep slopes, and flood prone areas. These areas were removed. The land use layer with constraints removed was then spatially joined with the zoning layer. A future land use designation based on the Design Plan was added as an attribute to each of the parcel records. The area of each parcel was calculated and added to the database. Finally, the specific build-out zone area was also added as an attribute. The resulting layer that was used for the build-out analysis contained attribute fields of existing land use, existing zoning, future land use designation, build-out “zone area”, and parcel area. A database including all this information was then brought into an MS Excel spreadsheet and organized into a pivot table so that areas could be summarized by land use and zoning or future land use classification. Vacant land and agriculture land uses were the only land uses that were considered to have a build-out potential for the purpose of new development. The existing land use classifies a large parcel adjacent to the junior high school as vacant. The School is currently considering acquiring this property for additional facilities or a park. However, there has been no final decision and the 44 acres of land where considered developable in this analysis. The amount of potential development is based on a function of the summarized areas and the zoning or future land use designation. The densities for each of the zoning or future land use classification are presented in the corresponding alternatives. The overall land area was calculated to obtain the number of residential units, amount of commercial or industrial floor space, and area of land that would remain as farmland. These calculations were based on current zoning specifications or specifications indicated in the Design Plan alternatives. As a final step the results were added to the existing development to get the overall build-out figures.

The following analysis presents the total build out of the study area under each alternative – that is the build out of every available parcel. An analysis of the likely build out by the year 2030 is presented in the following section.

3.3.3 Baseline – Existing Conditions

The first scenario provides an inventory of the existing residential units, commercial space, industrial space, and agricultural land. The purpose of this scenario is to establish a starting point from which to compare the four alternatives.

The number of housing units was found by counting the number of residential parcels. Multi-family parcels were multiplied by the appropriate number of units. The number of units in multi-family developments, apartment buildings, and mobile home parks were estimated based on review of aerial photography. The amount of commercial and industrial space was estimated by creating a building footprint layer of buildings based on the current land use with GIS and aerial photographs. The amount of agricultural land currently used was determined by summarizing the area based on the existing land use.

The results of this methodology are as follows in round figures:

- Residential Units – 3,102
- Commercial/Industrial Space (Sq. Ft.) – 554,000

- Agricultural Land (Acres) – 2,950

3.3.4 Alternative 1 – No Change to Existing Zoning

This alternative is designed to forecast the maximum amount of development that could take place on vacant and agricultural parcels under the existing zoning in the entire GEIS Study Area. The following calculations were used for each of the Design Plan build-out zone areas identified as areas 1-10, Northeast, Southeast, West, Chadwicks, and Washington Mills (Figure 2.1-1, page 14). Housing units were based on minimum lot size. Commercial space is based on maximum lot coverage. Industrial space is combined with commercial space throughout this analysis.

Housing units based on minimum lot size

- A – Area/60,000 = # housing units (.73 units per acre)
- RA1 – Areas/30,000 = # housing units (1.45 units per acre)
- RA2 – Area/43,560 = # housing units (1 unit per acre)
- LDR – Area/18,000 = # housing units (2.42 units per acre)
- MDR – Area/15,000 = # housing units (2.90 units per acre)
- HDR – Area/10,000 = # housing units (3.63 units per acre)
- PDRES – Area/18,000 = # housing units (2.42 units per acre)

Commercial space based on maximum building coverage (1 floor)

- RB2 - Area x 50% = Commercial Space
- RB4 - Area x 60% = Commercial Space

Manufacturing space based on maximum building coverage (1 floor)

- M – Area x 50% = Commercial Space

The results were then added to the existing development to get the total build out. The existing number of residential units and commercial/manufacturing space is based on the baseline data. Table 3.3-1 shows the potential build-out for residential and commercial based on future development of the entire GEIS Study Area in comparison to the existing conditions.

Table 3.3-1 Alternative 1 – No Change to Current Zoning

Zone Areas for Build-out	RESIDENTIAL			COMMERCIAL		
	Existing	Potential New	Existing & Potential New	Existing	Potential New	Existing and Potential New
1	201	169	370	0	22,136	22,136
2	124	133	257	0	7,133	7,133
3	48	30	78	0	0	0
4	157	120	277	0	0	0
5	84	39	123	0	0	0
6	81	16	97	0	0	0
7	4	9	13	0	0	0
8	127	5	135	0	0	0
9	398	147	545	0	0	0

Zone Areas for Build-out	RESIDENTIAL			COMMERCIAL		
	Existing	Potential New	Existing & Potential New	Existing	Potential New	Existing and Potential New
10	708	235	943	0	0	0
Northeast	280	786	1,250	0	0	0
Southeast	280	1,576	1,856	0	0	0
West	103	1,061	1,164	0	0	0
Washington Mills	70	16	86	371,000	351,217	722,217
Chadwicks	250	17	267	183,000	696,969	879,969
TOTAL	3,102	4,359	7,461	554,000	1,077,455	1,631,455

Source: peter j. smith & company, inc.

If the vacant and agricultural land in the Study Area were built out to their maximum permitted density based on current zoning, there would be 4,359 additional residential units for a total 7,461 residential units. These units, when multiplied by the average household size for New Hartford (2.34), represent a theoretical population of 17,459 in the Study Area. The amount of commercial space would increase 196% from the existing 554,000 square feet to an additional 1,077,455 square feet for a total amount of potential commercial space of 1,631,455 square feet. No Agricultural land is preserved in this alternative since the existing zoning permits residential development of agricultural land.

3.3.5 Alternative 2 –Design Plan, Suburban Growth Outside Boundary

The second alternative is designed to forecast the maximum amount of development that could take place on vacant and agricultural parcels under the proposed Design Plan with suburban development outside the Growth Boundary. It includes all areas within the GEIS Study Area identified for purposes of build-out as Zones 1-10, Northeast, Southeast, and West, as well as the hamlets of Chadwicks and Washington Mills (Figure 2.1-1). The following calculations were used for each of the zones.

- Within the urban Design Plan areas (Hamlets) the calculations were based on building measurements of the different types of buildings.
 - Mixed Use: $\text{Area} = \text{Commercial Space} \ \& \ \text{Area} \div 1,400 = \text{Residential Units}$
 - Multi-family: $\text{Area} \times 3 \div 1,400 = \text{Residential Units}$
 - Office: $\text{Area} \times 3 = \text{Commercial Space}$
 - Town House: $\text{Length} \div 20 = \text{Residential Units}$
 - Single Family: $\text{Count} = \text{Residential Units}$
- Outside of the hamlets, within the Growth Boundary
 - $\text{Acres} \times 3 = \text{Residential Units}$
- Outside the Growth Boundary
 - $\text{Acres} = \text{Residential Units}$

The build out calculations of the hamlet areas are based on the Design Plan. The Design Plan takes into account the retrofitting and redevelopment of existing structures, as well as the development of vacant areas. Therefore, the calculations for these areas represent the total build out. The potential new development was calculated by subtracting the existing from the total. Outside of the hamlets, the potential new development was added to the existing development to yield the overall capacity for development. The following table shows the results of the build out calculations.

Table 3.3-2 Alternative 2 – Design Plan, Suburban Growth Outside Boundary

Zone Areas for Build-out	RESIDENTIAL			COMMERCIAL		
	Existing	Potential New	Existing & Potential New	Existing	Potential New	Existing and Potential New
1	201	223	424	0	0	0
2	124	266	390	0	0	0
3	48	67	115	0	0	0
4	157	361	518	0	0	0
5	84	42	126	0	0	0
6	81	16	97	0	0	0
7	4	36	40	0	0	0
8	130	11	141	0	0	0
9	398	324	722	0	0	0
10	708	346	1,054	0	0	0
Northeast	464	653	1,117	0	0	0
Southeast	280	1,806	2,086	0	0	0
West	103	1,431	1,534	0	0	0
Washington Mills	70	474	544	371,000	80,947	451,947
Chadwicks	250	783	1,033	183,000	402,751	585,751
TOTAL	3,102	6,893	9,941	554,000	483,698	1,037,698

Source: peter j. smith & company, inc.

In Alternative 2, there is the potential for 6,893 new residential units for a total of 9,941 households. This represents a total possible population of more than 23,000 people. Almost half of the total household would be located outside of the Growth Boundary. The amount of potential commercial space that could be developed is based on the Design Plan of the hamlets. Washington Mills, which is currently more fully developed would only add an additional 80,947 square feet of commercial space. In Chadwicks, there is a greater potential for new development. An additional 402,751 square feet of commercial space could be developed in Chadwicks based on the Design Plan for the Hamlet.

3.3.6 Alternative 3 –Design Plan, Agricultural Preservation

This Alternative is presented to show potential for development under the Design Plan, while preserving agricultural land and open space outside of the growth boundary. The development stays primarily within the boundaries established by the Design Plan. The densities used for the areas within the Growth Boundary are the same as Alternative 2. The methodology used for the Design Plan areas is also the same as Alternative 2. Areas outside the Growth Boundary, specifically the Northeast, Southeast, and West portions of the Southern Area permit some development, but at an average density of one unit for every ten acres. Table 3.3-3 shows the potential for development in the Southern Area based on these densities.

Table 3.3-3 Alternative 3 – Design Plan, Agriculture Preservation

Zone Areas for Build-out	RESIDENTIAL			COMMERCIAL		
	Existing	Potential New	Existing & Potential New	Existing	Potential New	Existing and Potential New
1	201	223	424	0	0	0
2	124	266	390	0	0	0
3	48	67	115	0	0	0
4	157	361	518	0	0	0
5	84	42	126	0	0	0
6	81	16	97	0	0	0
7	4	36	40	0	0	0
8	130	11	141	0	0	0
9	398	324	722	0	0	0
10	708	346	1,054	0	0	0
Northeast	464	65	464	0	0	0
Southeast	280	181	280	0	0	0
West	103	143	103	0	0	0
Washington Mills	70	474	544	371,000	80,947	451,947
Chadwicks	250	783	1,033	183,000	402,751	585,751
TOTAL	3,102	3,338	6,440	554,000	483,698	1,037,698

Source: peter j. smith & company, inc.

In Alternative 3, the potential number of new household that could be developed is 3,338. Completely built out, the total number of households would be 6,440, supporting a population of over 15 thousand people, which is less than the first two alternatives. The development would be concentrated in and around the hamlets, preserving agriculture and open space outside the Growth Boundary. The amount of commercial space is based on the Design Plan for the hamlets and is the same as in Alternative 2.

3.3.7 Alternative 4 – Design Plan, Moderate Agricultural Preservation

This Alternative is presented to show potential for development under the Design Plan, while also preserving agricultural land and open space outside of the growth boundary, but not as rigorously as in Alternative 3. The densities established in this Alternative are the same as in Alternatives 2 and 3, with the exception that outside the growth boundary, development would be allowed to occur at an average density of one unit for every five acres. Table 3.3-4 shows the potential for development under this Alternative.

Table 3.3-4 Alternative 4 – Design Plan, Moderate Agricultural Preservation

Zone Areas for Build-out	RESIDENTIAL			COMMERCIAL		
	Existing	Potential New	Existing & Potential New	Existing	Potential New	Existing and Potential New
1	201	223	424	0	0	0
2	124	266	390	0	0	0
3	48	67	115	0	0	0
4	157	361	518	0	0	0
5	84	42	126	0	0	0
6	81	16	97	0	0	0
7	4	36	40	0	0	0
8	130	11	141	0	0	0
9	398	324	722	0	0	0
10	708	346	1,054	0	0	0
Northeast	464	131	464	0	0	0
Southeast	280	361	280	0	0	0
West	103	286	103	0	0	0
Washington Mills	70	474	544	371,000	80,947	451,947
Chadwicks	250	783	1,033	183,000	402,751	585,751
TOTALS	3,102	3,727	6,829	554,000	483,698	1,037,698

Source: peter j. smith & company, inc.

In Alternative 4, the number of household could increase by 3,727 for a total of 6,829 households. The total number of households possible is only slightly higher than in Alternative 3. Increasing the density outside the growth boundary from 10 acre lots to 5 acre lots creates more options for land owners in these areas, while still concentrating development in and around the hamlets. The amount of commercial space is based on the Design Plan for the hamlets and is the same as in Alternatives 2 and 3.

3.3.8 Build Out Summary

Table 3.3-5 shows the build-out summary of the entire GEIS Study Area under existing conditions (baseline) and all four Alternatives. This summary shows the total number of residential units that could be built-out based on available acreage and the total amount of square footage for commercial/industrial space that could be developed based on available space from vacant and agricultural land. The amount of agriculture land that would be preserved in Alternatives 3 and 4 is based on the assumption that development would occur as clusters on one acre lots, which is a proposed agriculture preservation strategy. To illustrate this, for example, in Alternative 3, a 100 acre lot would be able to develop 10 units. If these units were concentrated on one acre lots, only ten acres would be developed. The remaining 90% of the land could be preserved for agriculture. Alternative 4 would leave 80% of the land for agriculture. The methodology was only counted for actively farmed land. A similar proportion of vacant land would be preserved as open space. The following table shows the total capacity for development and preservation of agricultural land among the four alternatives, and the existing level of development.

Table 3.3-5 Summary of Build Out Alternatives

	Residential Units	Commercial Space (sq.ft.)	Acres of Agriculture
Baseline Conditions	3,102	554,000	2,954
Alternative 1	7,461	1,631,455	
Alternative 2	9,941	1,037,698	
Alternative 3	6,440	1,037,698	2,450
Alternative 4	6,829	1,037,698	2,177

Source: peter j. smith & company, inc.

All four alternatives would allow the number of households in the Southern Area to more than double if they were completely developed. Alternatives 1 and 2 yield an even greater number of residential units than Alternatives 3 and 4, although no agricultural land will be preserved in these Alternatives. Also, in the first two alternatives, development would be more spread out throughout the Study Area even though Alternative 2 is based on the Design Plan. The amount of commercial development in Alternative 2, 3, and 4 is relegated to the Design Plan area (hamlets) and remains the same for each, which is nearly double the amount of existing commercial space. The potential amount of commercial space in Alternative 1 is nearly triple the amount of existing commercial space.

It is important to note that these figures represent the maximum amount of development potential based on each alternative. It is unlikely that these quantities will be realized in the near future. The following analysis presents a more realistic view of the amount of development that will likely have in the near future and how that development will be distributed.

3.4 2030 Build Out Analysis

The previous build out analysis demonstrated the maximum capacity that the southern area of New Hartford could accommodate under the various alternatives. The 2030 build out analysis demonstrates the amount of development that is likely to occur by the year 2030 under the given alternatives. In this analysis, the overall final number is always the same as it is based on an established growth rate. This analysis demonstrates the allocation of new development, so that the impacts can be measured by the different Zone Areas. The four alternatives are presented as well as a current trend analysis.

3.4.1 Methodology

The growth rate was established by counting the number of building permits that were issued for new housing units over the last 8 years. The number of new housing units was added to existing household figures from the 2000 Census. From these two figures, the annual growth rate could be established. The annual growth rate was then applied to project the amount of development expected by 2030. The annual growth rate established was 0.552%. Based on this annual growth rate, the number of households in the southern area will increase by 448 units. The analysis assumes that the amount of commercial development will grow proportionally with the increase in households; therefore the same growth rate was used for commercial development. The amount of commercial development is expected to increase by 77,617 square feet. The distribution of new development with the four alternatives is based on the proportion of each of the zone area's potential for new development from the corresponding build out alternatives in the previous section. With the current trends analysis, the distribution of new development is based on the proportion of building permits issued for new housing units from 2000 to the present.

In the following tables the capacity of the zone is based on the potential full build out of the given alternative. The percent capacity is found by dividing the zone area's capacity by the overall capacity. The "2030 new" figure is found by multiplying the 448 by the percent capacity. The "2030 total" is found by adding the "2030 new" and the number of existing households from the baseline conditions.

3.4.2 2030 Residential Build Out

3.4.2.1 Trend Analysis

In the 2030 Build out for the Trend analysis, the proportion of the 448 units is distributed among the zone areas based on proportion of where building permit were established from 2000-2008. It merely demonstrates where recent development has been occurring in the Southern Area and given similar patterns, where new development would be located. Because this analysis is based on past trends and not a capacity to develop, the number of households allotted to some areas may be more than the areas can actually support under any of the alternatives. The following table presents the distribution of the 448 new households based on past trends.

Table 3.4-1 2030 Trend Analysis Distribution

	Zone Area	Trend Analysis			
		Permits	% Permits	2030 New	2030 Total
Inside Growth Boundary	1	12	8.70%	39	240
	2	2	1.45%	6	130
	3	0	0.00%	0	48
	4	11	7.97%	36	193
	5	0	0.00%	0	84
	6	11	7.97%	36	117
	7	0	0.00%	0	4
	8	16	11.59%	52	182
	9	2	1.45%	6	404
	10	4	2.90%	13	721
Outside Growth Boundary	Northeast	12	8.70%	39	503
	Southeast	22	15.94%	71	351
	West	44	31.88%	143	246
Hamlets	Washington Mills	2	1.45%	6	76
	Chadwicks	0	0.00%	0	250

Source: peter j. smith & company, inc.

In the trend analysis, over one-half of all new households will be constructed in areas outside of the Growth Boundary. Areas 3, 5, and 7, as well as the Hamlet of Chadwicks will see no new residential development. Recent development in Area 8 projects that 52 new households would be built there, but the area is now nearly built out and little new development can be expected for this area.

3.4.2.2 Alternative 1 - No Change to Existing Zoning

The 2030 build out analysis of Alternative 1 depicts how the 448 expected new households would be distributed based on existing zoning. The households are distributed with each areas proportional capacity for new development. Table 3.4-2 depicts the distribution of households in for the 2030 build out of Alternative 1.

Table 3.4-2 Alternative 1 – 2030 Build Out Distribution

	Zone Area	Alternative 1			
		Capacity	%Capacity	2030 New	2030 Total
Inside Growth Boundary	1	169	3.88%	17	218
	2	133	3.06%	14	138
	3	30	0.68%	3	51
	4	120	2.75%	12	169
	5	39	0.90%	4	88
	6	16	0.36%	2	83
	7	9	0.20%	1	5
	8	5	0.12%	1	131
	9	147	3.37%	15	413
	10	235	5.40%	24	732
Outside Growth Boundary	Northeast	786	18.04%	81	545
	Southeast	1,576	36.16%	162	442
	West	1,061	24.33%	109	212
Hamlets	Washington Mills	16	0.37%	2	72
	Chadwicks	17	0.39%	2	252

Source: peter j. smith & company, inc.

Based on existing zoning, the capacity for development would distribute more than three-fourths of all new households into areas outside of the Growth Boundary. Both hamlets would see very little new residential development. Area 10 show a significant potential for development based on the higher densities of zoning in that area.

3.4.2.3 Alternative 2 - Design Plan with Growth Boundary, Suburban Development outside Growth Boundary (1 acre lots)

The 2030 build out of Alternative 2 presents the amount of household that would be expected in each of the zones areas based on the proportional capacity for new development of Alternative 2; Design Plan with suburban growth outside of growth boundary. Table 3.4-3 depicts the distribution of households in the year 2030 based on Alternative 2.

Table 3.4-3 Alternative 2 – 2030 Build Out Distribution

	Zone Area	Alternative 2			
		Capacity	%Capacity	2030 New	2030 Total
Inside Growth Boundary	1	223	3.25%	15	216
	2	266	3.89%	17	141
	3	67	0.98%	4	52
	4	361	5.29%	24	181
	5	42	0.61%	3	87
	6	16	0.23%	1	82
	7	36	0.52%	2	6
	8	11	0.16%	1	131
	9	324	4.74%	21	419
	10	346	5.07%	23	731
Outside Growth Boundary	Northeast	653	9.55%	43	507
	Southeast	1,806	26.41%	118	398
	West	1,431	20.92%	94	197
Hamlets	Washington Mills	474	6.93%	31	101
	Chadwicks	783	11.45%	51	301

Source: peter j. smith & company, inc.

With the Design Plan in place, but suburban growth allowed to continue outside of the growth boundary, nearly 57% of new households would be built outside of the growth boundary. However, under this Alternative, the hamlet areas would support 18% of new development. Concentration would start within the Design Plan areas, but the large amount of available land outside the Growth Boundary would drive the housing demand away from the hamlet centers.

Alternative 3 - Design Plan with Growth Boundary, Agriculture Preservation outside Growth Boundary (10 acre lots)

The 2030 Build Out analysis of Alternative 3 represents the distribution of the 448 expected household based on the Design Plan, Agriculture Preservation Alternative. The following table presents the new and total households in each zone area in the year 2030.

Table 3.4-4 Alternative 3 – 2030 Build Out Distribution

	Zone Area	Alternative 3			
		Capacity	%Capacity	2030 New	2030 Total
Inside Growth Boundary	1	223	6.67%	30	231
	2	266	7.96%	36	160
	3	67	2.02%	9	57
	4	361	10.83%	49	206
	5	42	1.24%	6	90
	6	16	0.48%	2	83
	7	36	1.07%	5	9
	8	11	0.33%	1	131
	9	324	9.71%	44	442
	10	346	10.38%	46	754
Outside Growth Boundary	Northeast	65	1.96%	9	473
	Southeast	181	5.41%	24	304
	West	143	4.29%	19	122
Hamlets	Washington Mills	474	14.20%	64	134
	Chadwicks	783	23.45%	105	355

Source: peter j. smith & company, inc.

With Alternative 3, the hamlet areas would accommodate nearly 38% of the new residential development. Chadwicks alone would see nearly one-fourth of the new households. Less than 12% of the new households would be constructed outside of the Growth Boundary. Farm land and open space would be preserved in these areas. The remaining 50% of households would be developed within the Growth boundary around the hamlet centers.

3.4.2.4 Alternative 4 - Design Plan with Growth Boundary, Moderate Agriculture Preservation outside Growth Boundary (5 acre lots)

The 2030 Build Out analysis of Alternative 4 represents the distribution of household based on the Design Plan, Moderate Agriculture Preservation Alternative. The following table presents the new and total households in each zone area in the year 2030.

Table 3.4-5 Alternative 4 – 2030 Build Out Distribution

	Zone Area	Alternative 4			
		Capacity	%Capacity	2030 New	2030 Total
Inside Growth Boundary	1	223	5.97%	27	228
	2	266	7.13%	32	156
	3	67	1.81%	8	56
	4	361	9.70%	43	200
	5	42	1.11%	5	89
	6	16	0.43%	2	83
	7	36	0.96%	4	8
	8	11	0.30%	1	131
	9	324	8.70%	39	437
	10	346	9.29%	42	750
Outside Growth Boundary	Northeast	131	3.50%	16	480
	Southeast	361	9.69%	43	323
	West	286	7.68%	34	137
Hamlets	Washington Mills	474	12.72%	57	127
	Chadwicks	783	21.01%	94	344

Source: peter j. smith & company, inc.

In Alternative 4, the density outside of the Growth Boundary is increased by a factor of two over Alternative 3. The Hamlet areas will still receive roughly one-third of new development, while only 20% of new households will be developed outside of the Growth Boundary. Areas immediately outside of the hamlets will construct 45% of the new households.

3.4.3 2030 Build Out - Commercial

The Southern Area is expected to see 77,617 square feet of new commercial space by the year 2030. This is far less commercial space than can be accommodated within the Study Area and includes office space as well as retail. Since Alternatives 2, 3, and 4 are based on the same plan, the distribution of new commercial space is the same for all of these alternatives. In Alternative 1, based on existing zoning, some vacant areas were zoned for commercial development outside of the hamlets. The following tables show the distribution of new commercial space in the year 2030

Table 3.4-6 Commercial Distribution- 2030 Build Out

Commercial Distribution (Square Feet)				
Alternative 1				
Zone Area	Capacity	% Capacity	2030 New	2030 Total
1	22,136	2.05%	1,595	1,595
2	7,133	0.66%	514	514
Washington Mills	351,217	32.60%	25,301	396,301
Chadwicks	696,969	64.69%	50,208	233,208
Total	1,077,455		77,617	631,617

Commercial Distribution (Square Feet)				
Alternatives 2,3,4				
Zone Area	Capacity	% Capacity	2030 New	2030 Total
1		0.00%	-	-
2		0.00%	-	-
Washington Mills	80,947	16.74%	12,989	383,989
Chadwicks	402,751	83.26%	64,628	247,628
Total	483,698		77,617	631,617

Source: peter j. smith & company, inc.

In Alternative 1, a small amount of commercial space is distributed to Areas 1 and 2. These areas are contiguous to Washington Mills. Chadwicks would receive almost two-thirds of new commercial development. In all the other alternatives, Chadwicks would develop more than 80% of the new commercial space. These numbers reflect the fact that Washington Mills is currently more built out than Chadwicks and therefore has less available space for new development. The amount of overall commercial space is still greater in Washington Mills than in Chadwicks in all of the alternatives.

3.4.4 Alternatives 1-4 2030 Build Out Illustrations

The following maps graphically depict the results of the 2030 residential build outs for the four alternatives as well as the Trend Analysis. The numbers displayed in the maps represent the amount of new households that are expected in each of the Zone areas. The size of the circle containing the number is proportional to the value of the number. The maps clearly show that development is more diffuse in Alternatives 1 and 2. In both of those alternatives, very little residential development occurs within the hamlets. In Alternatives 3 and 4, development is concentrated in the hamlets and areas surrounding the hamlets. Development outside of the Growth Boundary is not precluded, but managed to lower levels.

Figure 3.4-1 2030 Build Out – Current Trend

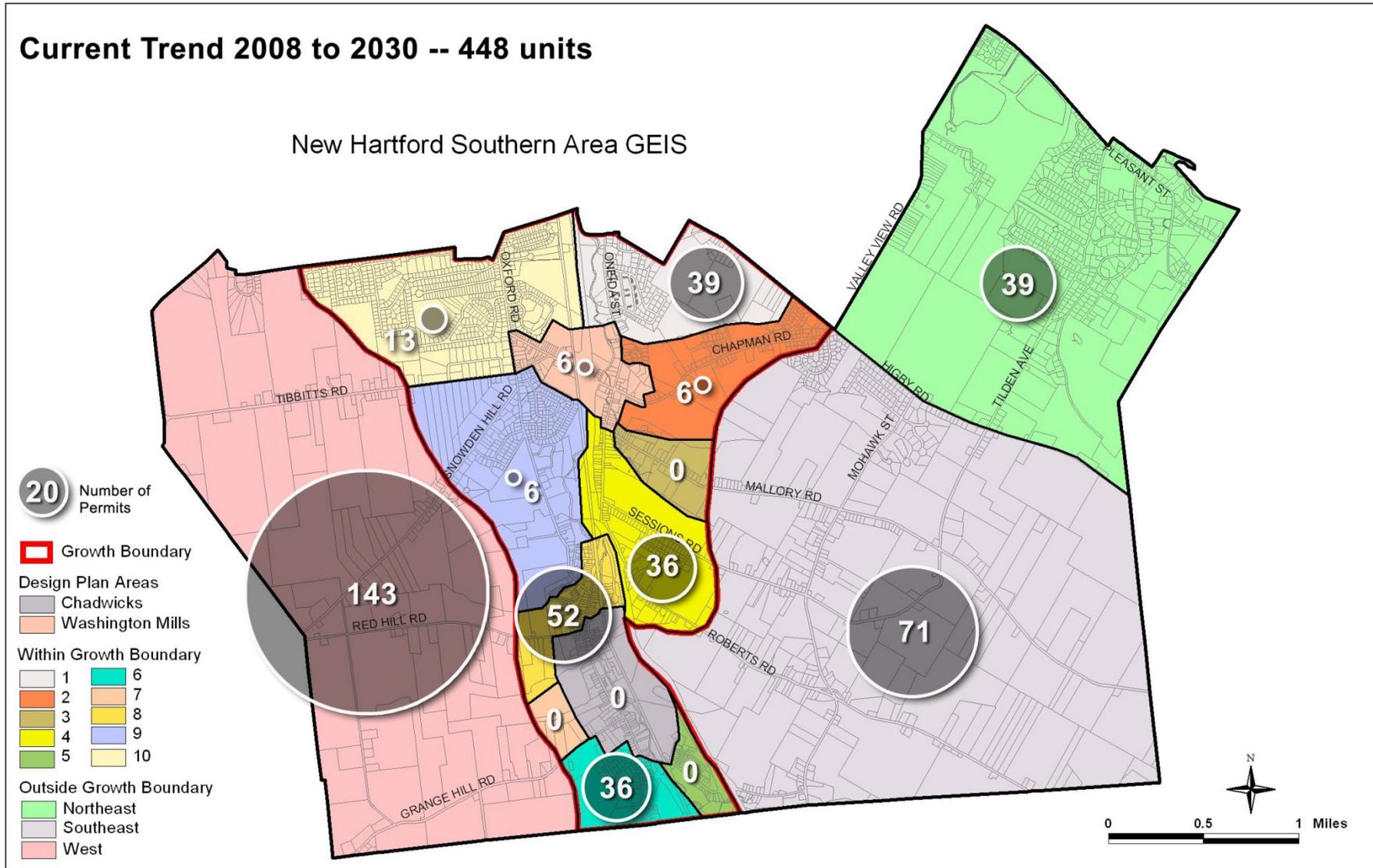


Figure 3.4-2 2030 Build Out – Alternative 1

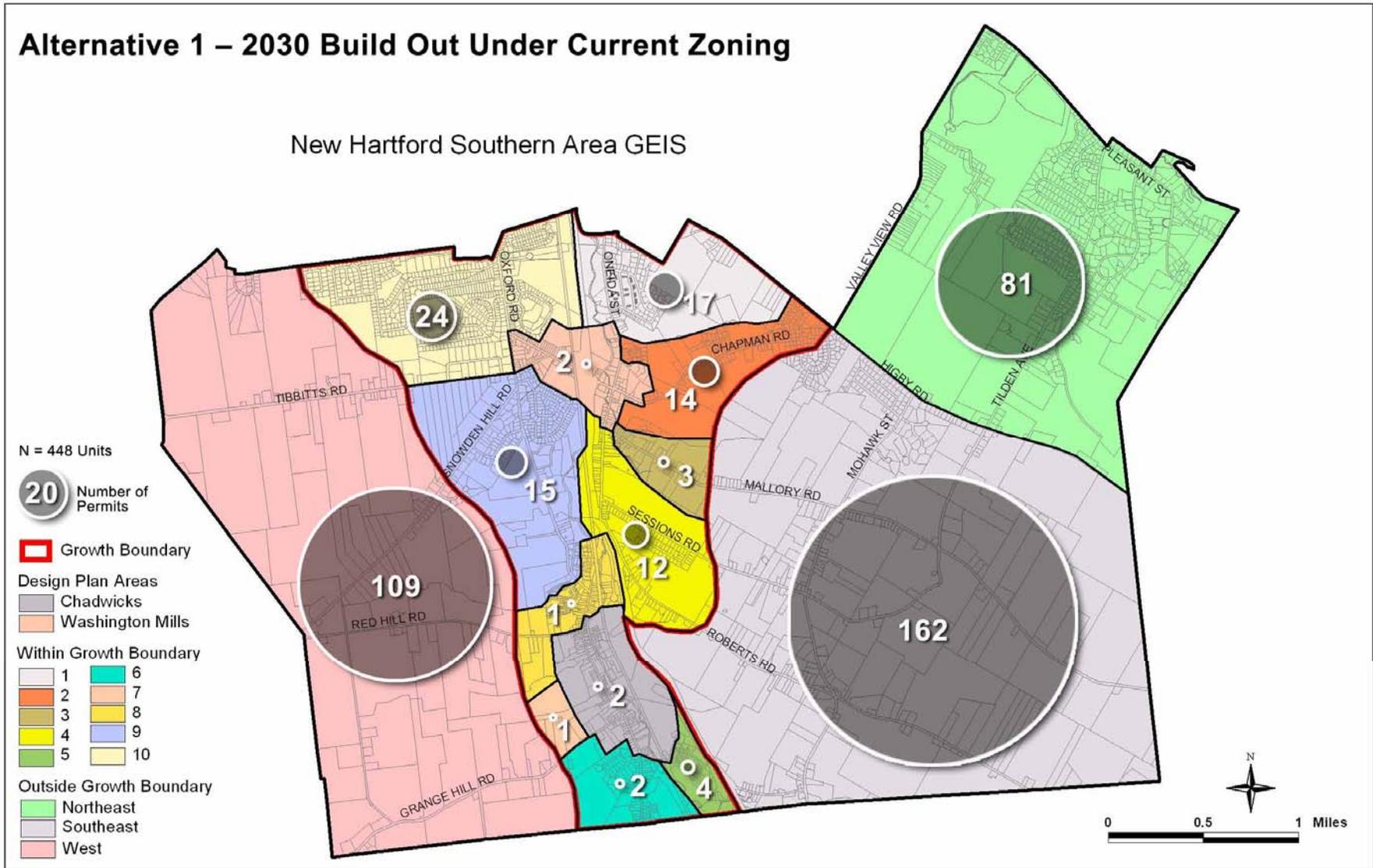


Figure 3.4-3 2030 Build Out – Alternative 2

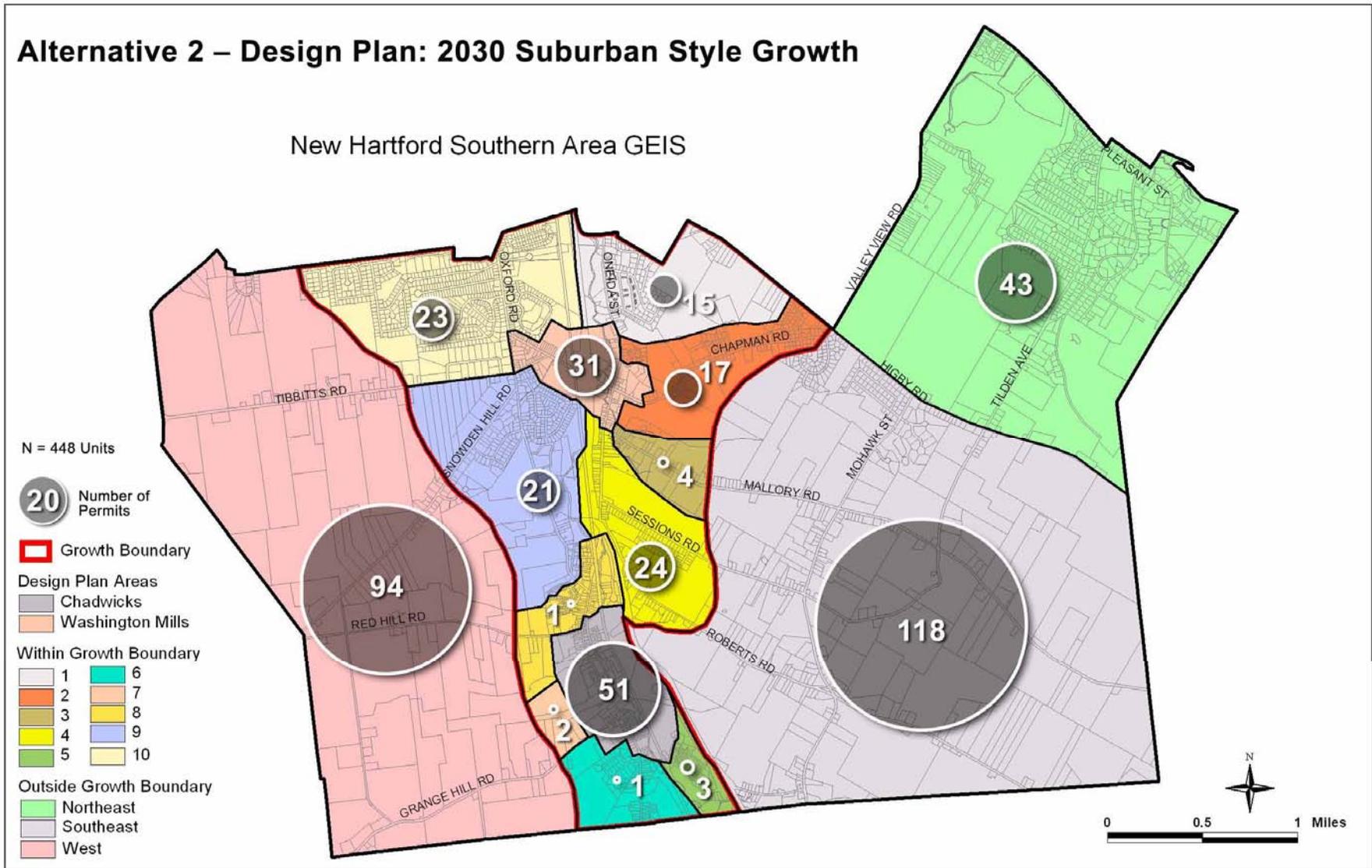


Figure 3.4-4 2030 Build Out – Alternative 3

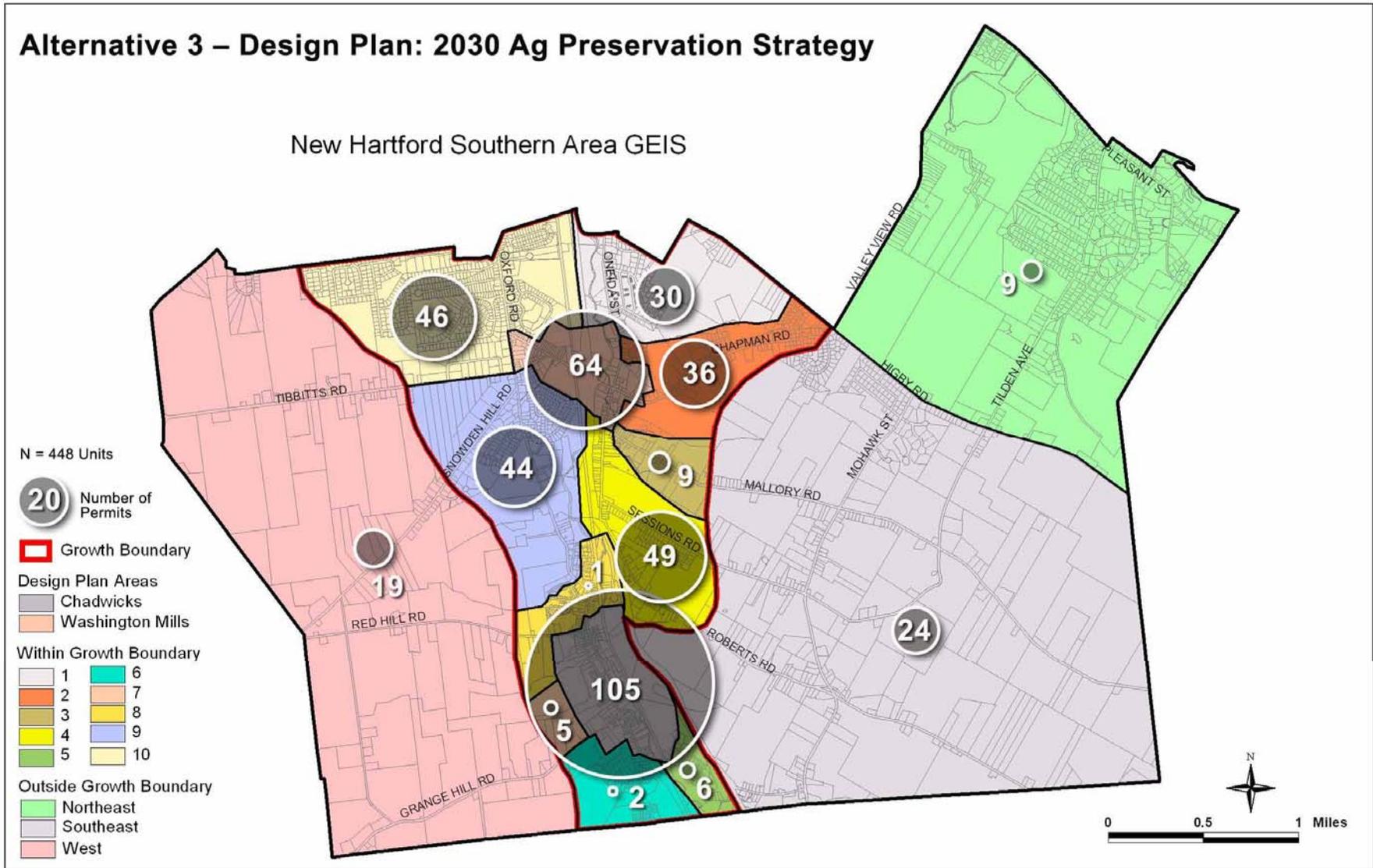
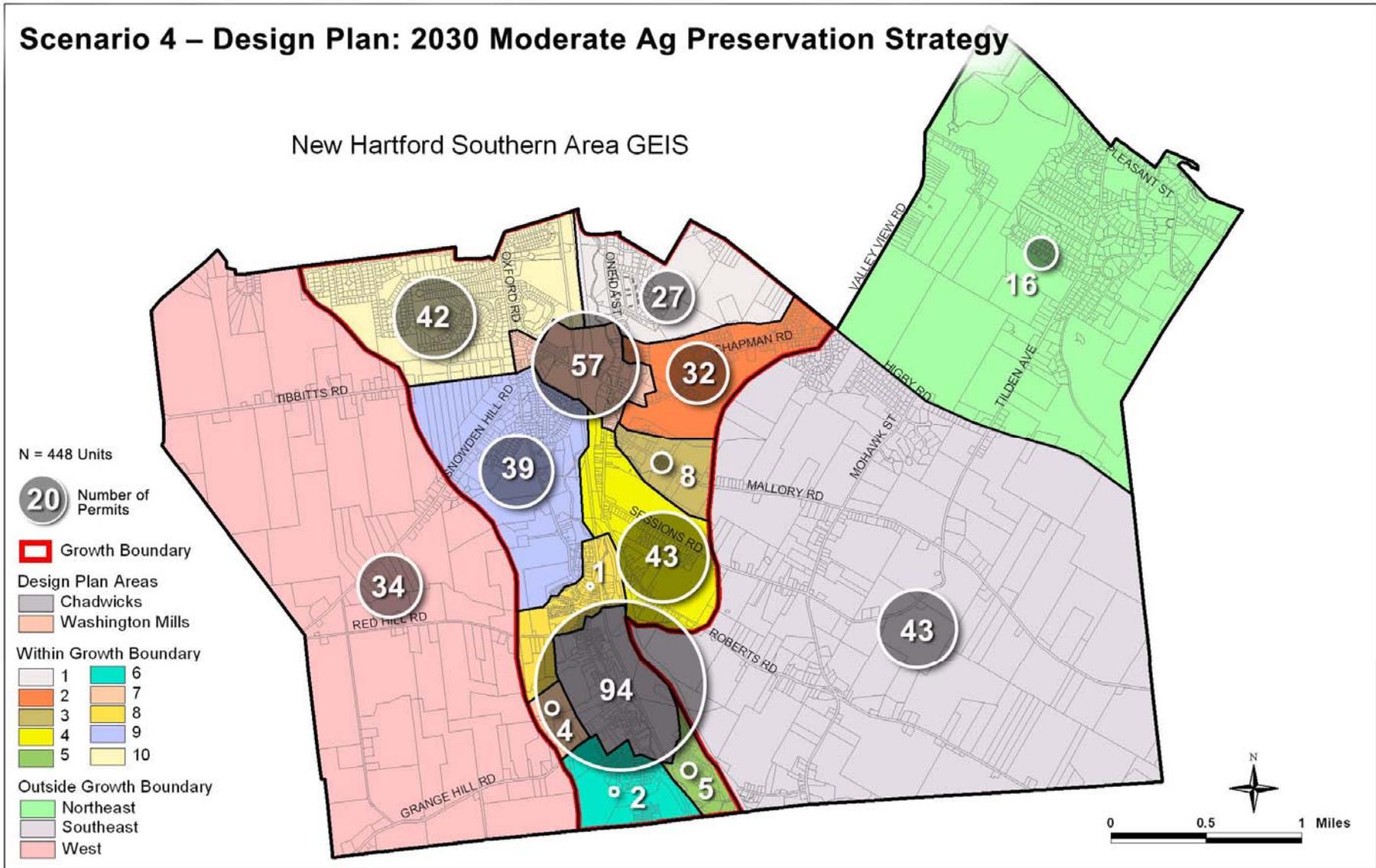


Figure 3.4-5 2030 Build Out – Alternative 4



3.5 Impacts and Mitigation: The Built Environment

This section discusses the Alternatives in relation to impacts upon storm water and sanitary sewer capacity, and transportation components, including existing roadways and highways, and anticipated volumes of traffic defined in terms of trip generation and capacity of roadways to facilitate efficient movement of traffic.

3.5.1 Stormwater

Participants in a focus group meetings held in June 2007 indicated the following areas experience apparent flooding during storm events: Red Hill Road at Oneida Street; Tibbitts at Oxford Road; Pleasant Street, located in the Northeast portion of the Study Area, as it heads further south; and Chapman at Oneida Street. In addition, flooding was identified as being intermediate at the following locations: along Oxford Road south of Kellogg Road where it then meets with Tibbitts; along Red Hill road where the slope of the land increases thereby causing a cascading flow of storm water; along Mohawk Street where it nears Higby Road; and along Valley View Road as it approaches Taber Drive (in the northeast section of the Study Area). Other areas where the roadways become temporarily flooded include (listed from Chadwicks to Washington Mills): Mohawk Street as it enters the Town (north of Paris town boundary) and as it continues northward just before Roberts Road and then again where it intersects Mallory Road; Higby Road at Valley View and Chapman (three-way intersection); Valley View for a portion of the west boundary of the Study Area; and a portion of Tibbitts Road in the northwest portion of the Study Area.

3.5.1.1 Hydrology Assessment for Stormwater Runoff

Methodology

In determining the impacts to stormwater runoff from further development of the GEIS Study Area, a total of 17 drainage areas were identified. Each drainage area represents a stand-alone watershed within the Study Area. Within each of the 17 drainage areas, varying numbers of subcatchments were identified. The configuration and size of subcatchments has been based on unique hydraulic attributes, including land use, slope, vegetative cover, man-made infrastructure, impervious cover and degree of development. Further, subcatchment boundaries were also developed based on the approximate location of the proposed Hamlet and Growth Boundary.

The hydrologic model was run to calculate peak stormwater runoff that could be expected for existing conditions, and for future development Alternative 1, which models continued growth under the existing zoning laws. Under Alternatives 2, 3, and 4, the barrier between the Growth Boundary and the Suburban outlying areas is an administrative boundary rather than a geographic feature, such as a road, mountain range, or other barrier to stormwater flow. Therefore, stormwater run-on from upgradient and outlying areas (West, Southeast, and Northeast development areas) cannot be quantified in a single discrete location, such as at a culvert, bridge, creek or other drainage feature. However, with the assumption that all, or most stormwater enters the creeks and rivers that are tributary to Sauquoit Creek, the calculated runoff can be reasonably calculated at specific points within each waterway that divide the development areas.

From this information, an evaluation can be made regarding the degree of increased flow at various points throughout the study area, and to identify areas particularly prone to future stormwater management problems. It should be noted that the drainage area boundaries are different from the Development Areas identified herein. As such, the discussion of the results of the stormwater calculations will be cross-correlated with development zones. Figure 4.3-1 depicts the configuration of the subcatchments that were developed as part of the hydrologic model for the southern portion of the town.

It is known that there are currently stormwater capacity issues in numerous locations of the Town. Some of the capacity problems arise from the need for ongoing maintenance, and others may arise as the result of infrastructure being under-sized or outdated. To assess the total changes in the area-wide runoff characteristics, the InfoSWMM™ model utilized in this assessment did not include any flow restrictions which would indicate the detention of stormwater water at specific flow restrictions. This was done because no site-specific survey was performed to assess the flooded area characteristics, and there could be numerous causes for flooding at specific locations that are impractical to address with such a large study. Therefore, the hydrologic model was used to evaluate the total increase of stormwater runoff at specific locations so that flood-prone areas can be identified independently as development occurs.

Stormwater Runoff

Many variables impact the amount of stormwater that runs off of a geographic area. One variable that has significant impact on the amount of runoff experienced by an area is the amount impervious surfaces that are associated with that specific area. In general, as the amount of impervious surfaces increase, the amount of stormwater runoff also increases due to the loss of infiltration into the ground. As an area becomes more developed with man-made surfaces, the ground becomes more impervious, thus increasing the amount of runoff.

The type of development in an area dictates the amount of impervious land surface that directly impacts runoff. Impervious land cover includes anything that precludes natural infiltration, such as roofs, driveways, paved parking lots, tennis courts, etc. To determine the degree of impervious surfaces within the study area, a detailed evaluation of aerial photography was made relative to lot sizes and other land uses. For residential lots, the percentage of impervious cover was calculated for “typical” homes then that percentage was utilized to characterize the general area. To determine impervious surfaces based on future conditions, maps and regulations (Town-specific) were used to determine the maximum allowable impervious surfaces. Based on this information, the Study Area was determined to currently be approximately 5% impervious.

As more impervious surfaces are created with development; the volume of storm water runoff increases. Engineering solutions to delay or slow the rate at which runoff occurs are effective at limiting peak flow rates, however the design for increased infiltration should always be considered to minimize the runoff quantity and increase downstream surface water quality. Allowing storm water to percolate into the ground water upstream has been recognized by the Storm Water Group – an ad hoc group convened by the Town of New Hartford to address storm water issues an allocated funding – as the best way to preserve existing and newly created storm water facilities.

Impervious Surfaces – Alternative 1- No Change to Existing Zoning

If development continues following current conditions and zoning, the Study Area (Areas 1 – 10, Northeast, Southeast, West, and both hamlets) could potentially become approximately 23% impervious. This is due primarily to the total quantity of acreage currently zoned as agricultural that could be developed into residential lots with potential impervious surfaces covering up to 30% of any given developable lot. In addition, continued development will take place in large tracts of land that are zoned for a specific purpose, but are currently vacant.

Impervious Surfaces – Alternative 2 - Design Plan with Growth Boundary, Suburban Development outside Growth Boundary (1 acre lots)

Similar to Alternative 1, this alternative allows for the ultimate build-out of outlying agricultural lands under the current zoning model, however more dense development would be allowed and encouraged within the Growth Boundary. Within the growth boundary, it may be expected that the total fraction of impervious surfaces may approach 50% or more, depending upon building size and type, roadways, and amenities such as patios, tennis courts, and driveways. The total fraction of impervious surfaces within the southern portion of town would be approximately 25%, which is only slightly higher than that predicted under the build-out under current zoning regulations. Although there are a higher percentage of impervious surfaces within the Growth Boundary, this alternative also allows a high percentage of impervious development outside of the urban boundary. Therefore, it is inferred that with all things remaining equal, the runoff impacts calculated under Alternative 2 will roughly resemble the storm water runoff impacts under Alternative 1, primarily due to the loss of the outlying agricultural lands.

Impervious Surfaces – Alternative 3 - Design Plan with Growth Boundary, Agriculture Preservation outside Growth Boundary (10 acre lots)

This Alternative affords a compromise in the amount of impervious surfaces created by the Alternative 2 Design Plan because it limits development of outlying agricultural areas to 10-acre residential lot sizes. Detailed analysis in a representative portion of the study area suggests that 10-acre residential development in current agricultural areas will result in approximately 2% total impervious surfaces, which is a nearly negligible impact to the existing estimated 0.5% – 1% impervious surfaces that currently exist in these areas.

In conjunction with the complete ultimate build out within the growth Boundary (estimated 50% impervious), the total percent impervious of the southern portion of the town may be expected to be approximately 8% - 10%, which is only slightly higher than existing conditions. A detailed analysis of this type of development suggests that limiting development to 10 acre lots in the outlying agricultural areas, the amount of impervious surfaces will yield nearly 400% less stormwater runoff than if the same area is developed under existing zoning (Alternative 1).

Impervious Surfaces – Alternative 4 - Design Plan with Growth Boundary, Moderate Agriculture Preservation outside Growth Boundary (5 acre lots)

Alternative 4 recognizes that it may not be feasible for continued growth to be restricted to a minimum 10 acre residential lot sizes in the outlying agricultural areas. Under Alternative 4, residential development in outlying agricultural areas will be allowed on a minimum 5-acre lot size. The anticipated amount of impervious surfaces under this Alternative would result in the outlying areas with an estimated 4%, with the built-out impervious surfaces within the Growth Boundary remaining at an estimated 50%.

Although the outlying areas have more impervious surfaces under Alternative 4 than Alternative 3, the analysis of a representative area within the study boundary indicates that 5-acre residential zoning in outlying areas has a nearly identical reduction in excess stormwater flow as the 10-acre lot zoning offered by Alternative 3 or nearly 400% less stormwater runoff than if the same area is developed under existing zoning (Alternative 1).

Stormwater and the 2030 Build Out

Based on the assumptions of the 2030 build out, none of the alternatives will create significant adverse impacts on the storm water system. However, there are currently identified inefficiencies in the storm water system that need to be addressed. It should also be noted that even the small amount of development that is expected to occur over the next 20 years will contribute to the amount of impervious area that will accumulate over the long run.

3.5.2 Water Systems

Most of the areas in the Sauquoit Creek Valley and in the Northeast section of the Study Area are served by a public water system. Water is delivered by the Mohawk Valley Water Authority (MVWA). MVWA has enough capacity to provide service for any new development. Any development in or adjacent to areas currently serviced by MVWA would be able to tap into the public system. The cost of connection would most likely be borne by the developer. The cost of service would vary by district based on the amount of pressure needed in the system.

Areas in the West and Southeast section of the Study Area would be unable to tap into the public water system unless lengthy extensions to the current system were constructed. These areas would most likely be served by individual wells. There are already identified issues with water pressure and water quality in these areas. These issues would only be exacerbated the development patterns of Alternatives 1 and 2. Water pressure would decrease by the increased use of the aquifer and the increase of septic systems would have a negative impact on water quality. These impacts would be considerably less in Alternatives 3 and 4.

3.5.3 Sanitary Sewer

3.5.3.1 Overview

The Town of New Hartford Sewer District currently encompasses approximately 45% of the Study Area. Those areas within the Study Area outside of the Sewer District are served by individual sewage treatment systems (septic systems). As discussed in section 4.3.3, below, all areas within the Sewer District are served by Town-owned sewer mains, which in turn drain to the Oneida County Sewer District (OCSD) owned interceptor sewers for transport to the waste water treatment plant (WWTP). The analyses presented in the following section do not consider the capacities of the OCSD owned interceptor sewers or the WWTP. It is important to note that the OCSD owned interceptor sewers and infrastructure capacities were not analyzed for this section. Separate studies are currently being conducted in support of complying with the terms of the New York State Department of Environmental Conservation (DEC) Consent Order which OCSD is operating under. See section 4.3.3 for a discussion of the Consent Order.

The above-mentioned Consent Order is essentially limiting the development which can occur outside of the existing town Sewer District. In order for new development to occur, and gain the approval of DEC and OCSD, I/I removal projects must be identified and undertaken to remove 5 gallons of I/I for every one gallon of wastewater introduced into the system. A plan to accomplish the Consent Order was completed in 2008.

A bank of sewer flow credits was established to fund I/I remediation projects. Developers will have to buy credits in order to extend the sewer system to their development or undertake an I/I mitigation project of their own. Municipalities can undertake mitigation projects to earn credits and subsequently charge developers to use them. The plan will be in place until sewer flows at the Sauquoit Creek Pumping Station are compliant with DEC regulations.

Also assumed is that if development is to occur under any one of the four alternatives, those areas not currently served by sanitary sewers will receive those services through sewer district and infrastructure extensions. This assumption may not be totally valid, especially for Alternative One where build out of the outlying vacant or agricultural land is developed into single family residences at the rate of one unit per 1.5 acre of land. This type of development has traditionally occurred through the utilization of septic systems.

Total build out calculations for other areas also suggest that sanitary sewer capacity issues may ultimately be experienced in Development Areas 9 and Northeast under the Alternative 1, and 2 respectively.

3.5.3.2 Sanitary Sewer 2030 and End Year Build Out Analysis

Total build out sanitary sewer flow analysis is depicted on Tables 3.5-1 through 3.5-4. Tables 3.5-5 through 3.5-8 presents the sewer flow analysis for the 2030 build out

For all development alternatives, it can be expected that the sanitary sewer trunk capacity in the hamlets of Washington Mills and Chadwicks may be exceeded by 2030. The increased in sanitary flow is largely dependent upon the projected increase of commercial spaces in these areas.

Although the calculations suggest that there may be a sanitary capacity issue in the West and Southeast development areas, lot sizes in all of the alternatives are large enough to accommodate septic systems in these areas so development could ostensibly continue apace without sanitary sewers in place. However, the use of septic systems is detrimental to the water quality in areas where individual wells are used to provide potable water. Development under alternatives 1 and 2 only exacerbate this problem.

Table 3.5-1 Alternative 1 – Full Build Out

DEVELOPABLE AREA	RESIDENTIAL				COMMERCIAL				TOTAL RESIDENTIAL AND COMMERCIAL FLOW (GPM)**	EXISTING TRUNK SEWERS		
	EXISTING RESIDENCES	EXISTING PEAK HOUR FLOW (GPM)**	TOTAL BUILDOUT RESIDENCES	FUTURE PEAK HOUR FLOW (GPM)**	EXISTING COMMERCIAL S.F.	EXISTING PEAK HOUR FLOW (GPM)**	TOTAL BUILDOUT S.F.	FUTURE PEAK HOUR FLOW (GPM)**		DIA. (Inches)	SLOPE %	CAPACITY (GPM)
1	201	335	370	534	0	0	22,136	46	580	16	0.5	3165
2	124	207	257	371	0	0	7,133	15	386	8	1	705
3	48	80	78	113	0	0	0	0	113	8	1	705
4	157	262	277	400	0	0	0	0	400	16	0.5	3165
5	84	140	123	178	0	0	0	0	178	16	0.5	3165
6	81	135	97	140	0	0	0	0	140	8	1	705
7	4	7	13	19	0	0	0	0	19	8	1	705
8	130	217	135	195	0	0	0	0	195	8	1	705
9	398	663	545	787	0	0	0	0	787	8	1	705
10	708	1,180	943	1,362	0	0	0	0	1,362	16	0.5	3165
Northeast	464	773	1,250	1,806	0	0	0	0	1,806	8	2	997
Southeast*	280	467	1,856	2,681	0	0	0	0	2,681	na		
West*	103	172	1,164	1,681	0	0	0	0	1,681	na		
Washington Mills	70	117	86	124	371,000	763	722,217	1,485	1,609	8	0.5	498
Chadwicks	250	417	267	386	183,000	376	879,969	1,809	2,194	8	1	705

* Not currently served by sanitary sewers.

** Flow quantity does not include infiltration or inflow from non-sanitary sources

1234 Indicates flow exceeds existing capacity

TYPICAL RESIDENTIAL SANITARY DESIGN FLOW:

Based on a single family residence with 3 bedrooms, prior to 1980 = 450 GPD.

Future 3 bedroom residence, post 1991 = 390 GPD.

AVERAGE DAILY FLOW (ADF) assumes an 18 hour design day.

PEAK DAILY FLOW (PDF) uses a Peaking Factor of 2.

PEAK HOUR FLOW = ADF x a factor of 4 (ref USEMCO DESIGN MANUAL)

TYPICAL COMMERCIAL SANITARY DESIGN FLOW:

Based on 70% office/shopping at 0.1 gpd/s.f. and 30% restaurant at 1.0 gpd/s.f.

Weighted factor of 0.37 x square footage/12 hours/60 minutes x PF 4=peak gpm

AVERAGE DAILY FLOW (ADF) assumes a 12 hour design day.

PEAK HOUR FLOW = ADF x a factor of 4 (ref USEMCO DESIGN MANUAL)

Table 3.5-2 Alternative 2 – Full Build Out

DEVELOPABLE AREA	RESIDENTIAL				COMMERCIAL				TOTAL RESIDENTIAL AND COMMERCIAL FLOW (GPM)**	EXISTING TRUNK SEWERS		
	EXISTING RESIDENCES	EXISTING PEAK HOUR FLOW (GPM)**	TOTAL BUILDOUT RESIDENCES	FUTURE PEAK HOUR FLOW (GPM)**	EXISTING COMMERCIAL S.F.	EXISTING PEAK HOUR FLOW (GPM)**	TOTAL BUILDOUT S.F.	FUTURE PEAK HOUR FLOW (GPM)**		DIA. (Inches)	SLOPE %	CAPACITY (GPM)
1	201	335	424	612	0	0	0	0	612	16	0.5	3165
2	124	207	390	563	0	0	0	0	563	8	1	705
3	48	80	115	166	0	0	0	0	166	8	1	705
4	157	262	518	748	0	0	0	0	748	16	0.5	3165
5	84	140	126	182	0	0	0	0	182	16	0.5	3165
6	81	135	97	140	0	0	0	0	140	8	1	705
7	4	7	40	58	0	0	0	0	58	8	1	705
8	130	217	141	204	0	0	0	0	204	8	1	705
9	398	663	722	1,043	0	0	0	0	1,043	8	1	705
10	708	1,180	1,054	1,522	0	0	0	0	1,522	16	0.5	3165
Northeast	464	773	1,117	1,613	0	0	0	0	1,613	8	2	997
Southeast*	280	467	2,086	3,013	0	0	0	0	3,013	na		
West*	103	172	1,534	2,216	0	0	0	0	2,216	na		
Washington Mills	70	117	614	887	371,000	763	451,947	929	1,816	8	0.5	498
Chadwicks	250	417	1,283	1,853	183,000	376	585,751	1,204	3,057	8	1	705

* Not currently served by sanitary sewers.

** Flow quantity does not include infiltration or inflow from non-sanitary sources

1234 Indicates flow exceeds existing capacity

TYPICAL RESIDENTIAL SANITARY DESIGN FLOW:

Based on a single family residence with 3 bedrooms, prior to 1980 = 450 GPD.

Future 3 bedroom residence, post 1991 = 390 GPD.

AVERAGE DAILY FLOW (ADF) assumes an 18 hour design day.

PEAK DAILY FLOW (PDF) uses a Peaking Factor of 2.

PEAK HOUR FLOW = ADF x a factor of 4 (ref USEMCO DESIGN MANUAL)

TYPICAL COMMERCIAL SANITARY DESIGN FLOW:

Based on 70% office/shopping at 0.1 gpd/s.f. and 30% restaurant at 1.0 gpd/s.f.

Weighted factor of 0.37 x square footage/12 hours/60 minutes x PF 4=peak gpm

AVERAGE DAILY FLOW (ADF) assumes a 12 hour design day.

PEAK HOUR FLOW = ADF x a factor of 4 (ref USEMCO DESIGN MANUAL)

Table 3.5-3 Alternative 3 – Full Build Out

DEVELOPABLE AREA	RESIDENTIAL				COMMERCIAL				TOTAL RESIDENTIAL AND COMMERCIAL FLOW (GPM)**	EXISTING TRUNK SEWERS		
	EXISTING RESIDENCES	EXISTING PEAK HOUR FLOW (GPM)**	TOTAL BUILDOUT RESIDENCES	FUTURE PEAK HOUR FLOW (GPM)**	EXISTING COMMERCIAL S.F.	EXISTING PEAK HOUR FLOW (GPM)**	TOTAL BUILDOUT-SQUARE FEET	FUTURE PEAK HOUR FLOW (GPM)**		DIA. (Inches)	SLOPE %	CAPACITY (GPM)
1	201	335	424	612	0	0	0	0	612	16	0.5	3165
2	124	207	390	563	0	0	0	0	563	8	1	705
3	48	80	115	166	0	0	0	0	166	8	1	705
4	157	262	518	748	0	0	0	0	748	16	0.5	3165
5	84	140	126	182	0	0	0	0	182	16	0.5	3165
6	81	135	97	140	0	0	0	0	140	8	1	705
7	4	7	40	58	0	0	0	0	58	8	1	705
8	130	217	141	204	0	0	0	0	204	8	1	705
9	398	663	722	1,043	0	0	0	0	1,043	8	1	705
10	708	1,180	1,054	1,522	0	0	0	0	1,522	16	0.5	3165
Northeast	464	773	529	764	0	0	0	0	764	8	2	997
Southeast*	280	467	461	666	0	0	0	0	666	na		
West*	103	172	246	355	0	0	0	0	355	na		
Washington Mills	70	117	544	786	371,000	763	451,947	929	1,715	8	0.5	498
Chadwicks	250	417	1,033	1,492	183,000	376	585,751	1,204	2,696	8	1	705

* Not currently served by sanitary sewers.

** Flow quantity does not include infiltration or inflow from non-sanitary sources

1234 Indicates flow exceeds existing capacity

TYPICAL RESIDENTIAL SANITARY DESIGN FLOW:

Based on a single family residence with 3 bedrooms, prior to 1980 = 450 GPD.

Future 3 bedroom residence, post 1991 = 390 GPD.

AVERAGE DAILY FLOW (ADF) assumes an 18 hour design day.

PEAK DAILY FLOW (PDF) uses a Peaking Factor of 2.

PEAK HOUR FLOW = ADF x a factor of 4 (ref USEMCO DESIGN MANUAL)

TYPICAL COMMERCIAL SANITARY DESIGN FLOW:

Based on 70% office/shopping at 0.1 gpd/s.f. and 30% restaurant at 1.0 gpd/s.f.

Weighted factor of 0.37 x square footage/12 hours/60 minutes x PF 4=peak gpm

AVERAGE DAILY FLOW (ADF) assumes a 12 hour design day.

PEAK HOUR FLOW = ADF x a factor of 4 (ref USEMCO DESIGN MANUAL)

Table 3.5-4 Alternative 4 – Full Build Out

DEVELOPABLE AREA	RESIDENTIAL				COMMERCIAL				TOTAL RESIDENTIAL AND COMMERCIAL FLOW (GPM)**	EXISTING TRUNK SEWERS		
	EXISTING RESIDENCES	EXISTING PEAK HOUR FLOW (GPM)**	TOTAL BUILDOUT RESIDENCES	FUTURE PEAK HOUR FLOW (GPM)**	EXISTING COMMERCIAL S.F.	EXISTING PEAK HOUR FLOW (GPM)**	TOTAL BUILDOUT-SQUARE FEET	FUTURE PEAK HOUR FLOW (GPM)**		DIA. (Inches)	SLOPE %	CAPACITY (GPM)
1	201	335	424	612	0	0	0	0	612	16	0.5	3165
2	124	207	390	563	0	0	0	0	563	8	1	705
3	48	80	115	166	0	0	0	0	166	8	1	705
4	157	262	518	748	0	0	0	0	748	16	0.5	3165
5	84	140	126	182	0	0	0	0	182	16	0.5	3165
6	81	135	97	140	0	0	0	0	140	8	1	705
7	4	7	40	58	0	0	0	0	58	8	1	705
8	130	217	141	204	0	0	0	0	204	8	1	705
9	398	663	722	1,043	0	0	0	0	1,043	8	1	705
10	708	1,180	1,054	1,522	0	0	0	0	1,522	16	0.5	3165
Northeast	464	773	641	926	0	0	0	0	926	8	2	997
Southeast*	280	467	595	859	0	0	0	0	859	na		
West*	103	172	389	562	0	0	0	0	562	na		
Washington Mills	70	117	544	786	371,000	763	451,947	929	1,715	8	0.5	498
Chadwicks	250	417	1,033	1,492	183,000	376	585,751	1,204	2,696	8	1	705

* Not currently served by sanitary sewers.

** Flow quantity does not include infiltration or inflow from non-sanitary sources

1234 Indicates flow exceeds existing capacity

TYPICAL RESIDENTIAL SANITARY DESIGN FLOW:

Based on a single family residence with 3 bedrooms, prior to 1980 = 450 GPD.

Future 3 bedroom residence, post 1991 = 390 GPD.

AVERAGE DAILY FLOW (ADF) assumes an 18 hour design day.

PEAK DAILY FLOW (PDF) uses a Peaking Factor of 2.

PEAK HOUR FLOW = ADF x a factor of 4 (ref USEMCO DESIGN MANUAL)

TYPICAL COMMERCIAL SANITARY DESIGN FLOW:

Based on 70% office/shopping at 0.1 gpd/s.f. and 30% restaurant at 1.0 gpd/s.f.

Weighted factor of 0.37 x square footage/12 hours/60 minutes x PF 4=peak gpm

AVERAGE DAILY FLOW (ADF) assumes a 12 hour design day.

PEAK HOUR FLOW = ADF x a factor of 4 (ref USEMCO DESIGN MANUAL)

Table 3.5-5 Alternative 1 – 2030 Build Out

DEVELOPABLE AREA	RESIDENTIAL				COMMERCIAL				TOTAL RESIDENTIAL AND COMMERCIAL FLOW (GPM)**	EXISTING TRUNK SEWERS		
	EXISTING RESIDENCES	EXISTING PEAK HOUR FLOW (GPM)**	2030 BUILDOUT RESIDENCES	FUTURE PEAK HOUR FLOW (GPM)**	EXISTING COMMERCIAL S.F.	EXISTING PEAK HOUR FLOW (GPM)**	2030 BUILDOUT-SQUARE FEET	FUTURE PEAK HOUR FLOW (GPM)**		DIA. (Inches)	SLOPE %	CAPACITY (GPM)
1	201	335	218	315	0	0	1,595	3	318	16	0.5	3165
2	124	207	138	199	0	0	514	1	200	8	1	705
3	48	80	51	74	0	0	0	0	74	8	1	705
4	157	262	169	244	0	0	0	0	244	16	0.5	3165
5	84	140	88	127	0	0	0	0	127	16	0.5	3165
6	81	135	83	120	0	0	0	0	120	8	1	705
7	4	7	5	7	0	0	0	0	7	8	1	705
8	130	217	131	189	0	0	0	0	189	8	1	705
9	398	663	413	597	0	0	0	0	597	8	1	705
10	708	1,180	732	1,057	0	0	0	0	1,057	16	0.5	3165
Northeast	464	773	545	787	0	0	0	0	787	8	2	997
Southeast*	280	467	442	638	0	0	0	0	638	na		
West*	103	172	212	306	0	0	0	0	306	na		
Washington Mills	70	117	72	104	371,000	763	396,301	815	919	8	0.5	498
Chadwicks	250	417	252	364	183,000	376	233,208	479	843	8	1	705

* Not currently served by sanitary sewers.

** Flow quantity does not include infiltration or inflow from non-sanitary sources

1234 Indicates flow exceeds existing capacity

TYPICAL RESIDENTIAL SANITARY DESIGN FLOW:

Based on a single family residence with 3 bedrooms, prior to 1980 = 450 GPD.

Future 3 bedroom residence, post 1991 = 390 GPD.

AVERAGE DAILY FLOW (ADF) assumes an 18 hour design day.

PEAK DAILY FLOW (PDF) uses a Peaking Factor of 2.

PEAK HOUR FLOW = ADF x a factor of 4 (ref USEMCO DESIGN MANUAL)

TYPICAL COMMERCIAL SANITARY DESIGN FLOW:

Based on 70% office/shopping at 0.1 gpd/s.f. and 30% restaurant at 1.0 gpd/s.f.

Weighted factor of 0.37 x square footage/12 hours/60 minutes x PF 4=peak gpm

AVERAGE DAILY FLOW (ADF) assumes a 12 hour design day.

PEAK HOUR FLOW = ADF x a factor of 4 (ref USEMCO DESIGN MANUAL)

Table 3.5-6 Alternative 2 – 2030 Build Out

DEVELOPABLE AREA	RESIDENTIAL				COMMERCIAL				TOTAL RESIDENTIAL AND COMMERCIAL FLOW (GPM)**	EXISTING TRUNK SEWERS		
	EXISTING RESIDENCES	EXISTING PEAK HOUR FLOW (GPM)**	2030 BUILDOUT RESIDENCES	2030 PEAK HOUR FLOW (GPM)**	EXISTING COMMERCIAL S.F.	EXISTING PEAK HOUR FLOW (GPM)**	2030 BUILDOUT-SQUARE FEET	2030 PEAK HOUR FLOW (GPM)**		DIA. (Inches)	SLOPE %	CAPACITY (GPM)
1	201	335	216	312	0	0	0	0	312	16	0.5	3165
2	124	207	141	204	0	0	0	0	204	8	1	705
3	48	80	52	75	0	0	0	0	75	8	1	705
4	157	262	181	261	0	0	0	0	261	16	0.5	3165
5	84	140	87	126	0	0	0	0	126	16	0.5	3165
6	81	135	82	118	0	0	0	0	118	8	1	705
7	4	7	6	9	0	0	0	0	9	8	1	705
8	130	217	131	189	0	0	0	0	189	8	1	705
9	398	663	419	605	0	0	0	0	605	8	1	705
10	708	1,180	731	1,056	0	0	0	0	1,056	16	0.5	3165
Northeast	464	773	507	732	0	0	0	0	732	8	2	997
Southeast*	280	467	398	575	0	0	0	0	575	na		
West*	103	172	197	285	0	0	0	0	285	na		
Washington Mills	70	117	101	146	371,000	763	383,989	789	935	8	0.5	498
Chadwicks	250	417	301	435	183,000	376	247,628	509	944	8	1	705

* Not currently served by sanitary sewers.

** Flow quantity does not include infiltration or inflow from non-sanitary sources

1234 Indicates flow exceeds existing capacity

TYPICAL RESIDENTIAL SANITARY DESIGN FLOW:

Based on a single family residence with 3 bedrooms, prior to 1980 = 450 GPD.

Future 3 bedroom residence, post 1991 = 390 GPD.

AVERAGE DAILY FLOW (ADF) assumes an 18 hour design day.

PEAK DAILY FLOW (PDF) uses a Peaking Factor of 2.

PEAK HOUR FLOW = ADF x a factor of 4 (ref USEMCO DESIGN MANUAL)

TYPICAL COMMERCIAL SANITARY DESIGN FLOW:

Based on 70% office/shopping at 0.1 gpd/s.f. and 30% restaurant at 1.0 gpd/s.f.

Weighted factor of 0.37 x square footage/12 hours/60 minutes x PF 4=peak gpm

AVERAGE DAILY FLOW (ADF) assumes a 12 hour design day.

PEAK HOUR FLOW = ADF x a factor of 4 (ref USEMCO DESIGN MANUAL)

Table 3.5-7 Alternative 3 – 2030 Build Out

DEVELOPABLE AREA	RESIDENTIAL				COMMERCIAL				TOTAL RESIDENTIAL AND COMMERCIAL FLOW (GPM)**	EXISTING TRUNK SEWERS		
	EXISTING RESIDENCES	EXISTING PEAK HOUR FLOW (GPM)**	2030 BUILDOUT RESIDENCES	2030 PEAK HOUR FLOW (GPM)**	EXISTING COMMERCIAL S.F.	EXISTING PEAK HOUR FLOW (GPM)**	2030 BUILDOUT-SQUARE FEET	2030 PEAK HOUR FLOW (GPM)**		DIA. (Inches)	SLOPE %	CAPACITY (GPM)
1	201	335	231	334	0	0	0	0	334	16	0.5	3165
2	124	207	160	231	0	0	0	0	231	8	1	705
3	48	80	57	82	0	0	0	0	82	8	1	705
4	157	262	206	298	0	0	0	0	298	16	0.5	3165
5	84	140	90	130	0	0	0	0	130	16	0.5	3165
6	81	135	83	120	0	0	0	0	120	8	1	705
7	4	7	9	13	0	0	0	0	13	8	1	705
8	130	217	131	189	0	0	0	0	189	8	1	705
9	398	663	442	638	0	0	0	0	638	8	1	705
10	708	1,180	754	1,089	0	0	0	0	1,089	16	0.5	3165
Northeast	464	773	473	683	0	0	0	0	683	8	2	997
Southeast*	280	467	304	439	0	0	0	0	439	na		
West*	103	172	122	176	0	0	0	0	176	na		
Washington Mills	70	117	134	194	371,000	763	383,989	789	983	8	0.5	498
Chadwicks	250	417	355	513	183,000	376	247,628	509	1,022	8	1	705

* Not currently served by sanitary sewers.

** Flow quantity does not include infiltration or inflow from non-sanitary sources

1234 Indicates flow exceeds existing capacity

TYPICAL RESIDENTIAL SANITARY DESIGN FLOW:

Based on a single family residence with 3 bedrooms, prior to 1980 = 450 GPD.

Future 3 bedroom residence, post 1991 = 390 GPD.

AVERAGE DAILY FLOW (ADF) assumes an 18 hour design day.

PEAK DAILY FLOW (PDF) uses a Peaking Factor of 2.

PEAK HOUR FLOW = ADF x a factor of 4 (ref USEMCO DESIGN MANUAL)

TYPICAL COMMERCIAL SANITARY DESIGN FLOW:

Based on 70% office/shopping at 0.1 gpd/s.f. and 30% restaurant at 1.0 gpd/s.f.

Weighted factor of 0.37 x square footage/12 hours/60 minutes x PF 4=peak gpm

AVERAGE DAILY FLOW (ADF) assumes a 12 hour design day.

PEAK HOUR FLOW = ADF x a factor of 4 (ref USEMCO DESIGN MANUAL)

Table 3.5-8 Alternative 4 – 2030 Build Out

DEVELOPABLE AREA	RESIDENTIAL				COMMERCIAL				TOTAL RESIDENTIAL AND COMMERCIAL FLOW (GPM)**	EXISTING TRUNK SEWERS		
	EXISTING RESIDENCES	EXISTING PEAK HOUR FLOW (GPM)**	2030 BUILDOUT RESIDENCES	2030 PEAK HOUR FLOW (GPM)**	EXISTING COMMERCIAL S.F.	EXISTING PEAK HOUR FLOW (GPM)**	2030 BUILDOUT-SQUARE FEET	2030 PEAK HOUR FLOW (GPM)**		DIA. (Inches)	SLOPE %	CAPACITY (GPM)
1	201	335	240	347	0	0	0	0	347	16	0.5	3165
2	124	207	130	188	0	0	0	0	188	8	1	705
3	48	80	48	69	0	0	0	0	69	8	1	705
4	157	262	193	279	0	0	0	0	279	16	0.5	3165
5	84	140	84	121	0	0	0	0	121	16	0.5	3165
6	81	135	117	169	0	0	0	0	169	8	1	705
7	4	7	4	6	0	0	0	0	6	8	1	705
8	130	217	182	263	0	0	0	0	263	8	1	705
9	398	663	404	584	0	0	0	0	584	8	1	705
10	708	1,180	721	1,041	0	0	0	0	1,041	16	0.5	3165
Northeast	464	773	503	727	0	0	0	0	727	8	2	997
Southeast*	280	467	351	507	0	0	0	0	507	na		
West*	103	172	246	355	0	0	0	0	355	na		
Washington Mills	70	117	76	110	371,000	763	383,989	789	899	8	0.5	498
Chadwicks	250	417	250	361	183,000	376	247,628	509	870	8	1	705

* Not currently served by sanitary sewers.

** Flow quantity does not include infiltration or inflow from non-sanitary sources

1234 Indicates flow exceeds existing capacity

TYPICAL RESIDENTIAL SANITARY DESIGN FLOW:

Based on a single family residence with 3 bedrooms, prior to 1980 = 450 GPD.
 Future 3 bedroom residence, post 1991 = 390 GPD.

AVERAGE DAILY FLOW (ADF) assumes an 18 hour design day.
 PEAK DAILY FLOW (PDF) uses a Peaking Factor of 2.
 PEAK HOUR FLOW = ADF x a factor of 4 (ref USEMCO DESIGN MANUAL)

TYPICAL COMMERCIAL SANITARY DESIGN FLOW:

Based on 70% office/shopping at 0.1 gpd/s.f. and 30% restaurant at 1.0 gpd/s.f.
 Weighted factor of 0.37 x square footage/12 hours/60 minutes x PF 4=peak gpm

AVERAGE DAILY FLOW (ADF) assumes a 12 hour design day.

PEAK HOUR FLOW = ADF x a factor of 4 (ref USEMCO DESIGN MANUAL)

3.5.4 Transportation Components

3.5.4.1 Trip Generation

In determining impacts to automobile traffic as a result of the future growth of the GEIS Study Area, an analysis of trip generation was performed. The number of trips generated by residential and commercial development is determined by an established number of PM peak hour trips according to the methodology established by the *Institute of Transportation Engineers (ITE)*. The ITE's *Trip Generation Manual* is used to calculate the PM peak hour vehicle trips for a specified land use. The following table shows the traffic generation based on the full build out for all of the given alternatives.

Table 3.5-9 Existing and Future Trip Generation

	Existing Conditions	Alternative 1	Alternative 2	Alternative 3	Alternative 4
Total Daily Trips	36,055	92,128	95,885	69,338	72,574
PM Peak Hour	3,481	9,061	8,992	6,465	6,780

As indicated in the above table, the Alternatives 1 and 2 result in 2.6 times as many trips during the peak hour as in the existing condition, due to the number of households outside the growth boundary. Alternatives 3 and 4 result in 1.9 times as many trips during the peak hour.

3.5.4.2 Capacity Analysis

Capacity analysis was conducted for each alternative under the full build out condition. Capacity analysis was also conducted for the 20-year build out condition. Based on current development trends in the study area, it was determined that 448 housing units and 77,000 square feet of commercial space would be built over the next 20 years. Regardless of the alternative, this results in an overall growth of 1.2 times the current condition.

The PM Peak Hour Level of Service (LOS) and delay for Existing Conditions, Alternative 1 and 2, Alternative 3 and 4, and Year 2030 is shown in Table 3.5-10. This analysis found that all signalized intersections will be at or over capacity under the full build out alternatives. The intersection approaches that will have capacity deficiencies (LOS E or worse) are highlighted in Table 3.5-10.

Table 3.5-10 LOS and Delay Summary Table

INTERSECTION	2007 EXISTING LOS (delay sec)		Alt 1 & 2 LOS (delay sec)		Alt 3 & 4 LOS (delay sec)		2030 LOS (delay sec)	
	AM	PM	AM	PM	AM	PM	AM	PM
UN SIGNALIZED INTERSECTIONS								
Oxford Road at Kellogg Road								
NB	A (0.0)	A (0.0)		A (0.0)		A (0.0)		A (0.0)
SB	A (7.0)	A (6.1)		B (10.3)		A (7.7)		A (6.3)
WB	B (11.5)	B (10.2)		F (53.9)		C (15.7)		B (10.8)
Oxford Road at Tibbitts Road								
NB	A (0.4)	A (0.1)		A (0.2)		A (0.1)		A (0.1)
SB	A (0.9)	A (0.4)		A (0.5)		A (0.4)		A (0.4)
EB	B (11.8)	B (11.4)		E (38.0)		C (17.3)		B (12.2)
WB	B (11.8)	B (13.5)		F (635.3)		F (82.2)		C (16.0)
Oxford Road at Oneida Street								

INTERSECTION	2007 EXISTING LOS (delay sec)		Alt 1 & 2 LOS (delay sec)		Alt 3 & 4 LOS (delay sec)		2030 LOS (delay sec)	
	AM	PM	AM	PM	AM	PM	AM	PM
NB	A (1.5)	A (2.2)		A (4.4)		A (3.1)		A (2.3)
SB	A (0.0)	A (0.0)		A (0.0)		A (0.0)		A (0.0)
EB	B (11.4)	B (11.2)		E (44.9)		C (18.4)		B (12.1)
Oneida Street at Grange Hill Road								
NB	A (0.4)	A (0.8)		A (1.3)		A (1.1)		A (0.9)
SB	A (0.0)	A (0.0)		A (0.0)		A (0.0)		A (0.0)
EB	B (10.0)	B (10.5)		C (22.7)		B (14.6)		B (11.1)
Oneida Street at Elm Street								
NB	A (0.0)	A (0.0)		A (0.0)		A (0.0)		A (0.0)
SB	A (2.7)	A (2.5)		A (3.8)		A (3.1)		A (2.6)
WB	B (10.5)	B (10.7)		E (44.0)		C (16.9)		B (11.5)
Elm Street at Route 8 SB Off-Ramp								
EB	A (0.0)	A (0.0)		A (0.0)		A (0.0)		A (0.0)
WB	A (0.0)	A (0.0)		A (0.0)		A (0.0)		A (0.0)
SB LT/RT	A (8.7)	A (9.0)		B (10.9)		A (9.9)		A (9.2)
Elm Street at Route 8 NB On-Ramp								
EB	A (5.8)	A (3.2)		A (3.6)		A (3.4)		A (3.2)
WB	A (0.0)	A (0.0)		A (0.0)		A (0.0)		A (0.0)
Oneida Street at Roberts Road								
NB	A (0.0)	A (0.0)		A (0.0)		A (0.0)		A (0.0)
SB	A (1.8)	A (3.5)		A (8.0)		A (5.3)		A (3.8)
WB LT	B (11.6)	C (16.3)		F (160.7)		E (44.1)		C (19.5)
WB RT	B (10.8)	A (9.5)		B (13.3)		B (16.2)		A (9.8)
Kellogg Road at Route 8 NB Ramps								
EB	A (4.1)	A (2.7)		F (883.6)		F (47.9)		A (4.6)
WB	A (0.0)	A (0.0)		A (0.0)		A (0.0)		A (0.0)
NB LT	D (30.3)	F (150.9)		F **		F **		F (663.3)
NB RT		C (15.9)		F **		F **		D (26.5)
Higby Road at Mohawk Street								
NB	B (13.2)	B (13.5)		F (383.8)		E (41.0)		C (15.7)
EB	A (0.0)	A (0.0)		A (0.0)		A (0.0)		A (0.0)
WB	A (0.9)	A (2.1)		A (5.8)		A (3.4)		A (2.3)
Higby Road at Tilden Avenue								
EB	B (11.1)	B (11.7)		F (353.4)		F (88.5)		B (14.4)
WB	B (10.1)	A (9.2)		D (30.0)		C (15.9)		B (10.0)
NB	A (8.7)	A (8.5)		B (13.6)		B (11.5)		A (9.1)
SB	A (8.9)	A (9.6)		F (83.7)		C (23.5)		B (10.9)
<u>SIGNALIZED INTERSECTIONS</u>								
Kellogg Road at Route 8 SB Ramps								
EB	B (10.8)	B (11.2)		F (87.2)		C (26.1)		B (12.0)
WB	B (10.6)	B (11.8)		F (310.8)		F (126.5)		B (12.9)
SB LT/RT	A (7.3)	B (10.3)		F (221.4)		F (87.4)		B (16.4)
OVERALL	A (10.0)	B (11.0)		F (198.1)		E (76.3)		B (14.0)
Oneida Street at Kellogg-Chapman Roads								
EB	B (12.4)	A (9.2)		F (296.7)		F (108.6)		B (11.3)
WB	B (17.0)	B (10.6)		F (111.0)		B (18.4)		B (11.0)
NB	B (12.8)	B (13.6)		F (444.0)		F (188.4)		B (19.0)

INTERSECTION	2007 EXISTING LOS (delay sec)		Alt 1 & 2 LOS (delay sec)		Alt 3 & 4 LOS (delay sec)		2030 LOS (delay sec)	
	AM	PM	AM	PM	AM	PM	AM	PM
SB	A (4.8)	A (6.3)		C (22.6)		B (15.6)		A (6.9)
OVERALL	B (13.2)	A (9.6)		F (226.8)		F (84.7)		B (11.6)
Higby Road at Chapman-Valley View Roads								
EB	B (13.1)	B (16.4)		F (216.6)		E (69.9)		C (20.1)
WB	A (10.9)	A (8.9)		F (324.3)		F (95.5)		B (10.1)
NB	A (9.8)	B (10.3)		F (261.3)		E (77.7)		B (14.1)
SB	A (7.0)	B (11.1)		D (35.3)		B (16.2)		B (15.3)
OVERALL	B (10.5)	B (11.8)		F (220.7)		E (67.9)		B (15.2)

Source: Hatch Mott MacDonald

3.5.4.3 Conclusions

Four Alternatives for future growth in the Town of New Hartford were assessed for their impact on the existing transportation system. Alternative 1, which assumes development based on current zoning, and Alternative 2 will result in 2.6 times the traffic as currently exists in the study area. This will cause major capacity issues at all signalized intersections and numerous unsignalized intersections. Alternatives 3 and 4, which focus development in the hamlet areas, will result in 1.9 times as much traffic as currently exists in the study area. This amount of traffic will cause noticeable delays to travel, but not as significant as those under the first two alternatives. Within the next 20 years, traffic volumes are forecast to increase by 20 percent. This increase will not cause any significant change over current conditions.

3.5.4.4 Existing Transportation Highway Capacity Needs and Measures

Current conditions in the Town of New Hartford do not indicate any issues with capacity of the roadways, though the Kellogg Road/Chapman Road corridor in Washington Mills experiences near capacity conditions during peak times. Numerous access points to commercial establishments along with vehicles making turns into and out of these locations cause delays to vehicles on the roadway. It is also difficult to make a left turn onto Kellogg Road from the north bound ramp of Route 8.

Capacity could be improved by limiting the number of access driveways, installing traffic signals to facilitate the movement of vehicles from the establishments or limiting turning movements from the access driveways altogether or during periods of peak traffic demand. Traffic signals could be coordinated with either a time based system or with wireless interconnect. Wireless interconnect is proving to be an inexpensive way to improve the operation of traffic signals, and could be linked to a traffic operations center for the Town or the County in the future. A pedestrian signal could also be installed at Kellogg Road, Oneida Street and Chapman Road.

3.5.4.5 Safety Improvements

The intersections with the highest accident rates are Roberts Road at Mohawk Street, Higby Road at Mohawk Street, Elm Street at Oneida Street, and Grange Hill at Oneida Street. The accidents at these locations consisted of collisions with deer; general accidents associated with the intersections; and loss of control of a motorcycle. Removing deer collisions from the analysis, the accident rate (0.40) becomes synonymous with that of the State (0.35) for similar intersections. Higby Road at Mohawk Streets poses the intersection having the most accidents, with nine occurring during the analysis period. With removal of one accident (due to deer collision) and another that reportedly did not actually occur, and a third that did not have an accident report, the rate is 1.2 which is still higher than the statewide average for similar intersections (0.16) and should be investigated.

3.5.4.6 Truck Traffic

A concern about truck traffic from the east using Roberts Road and Oneida Street was voiced during focus group sessions and public information meetings. Data collected in early March did not indicate a higher than normal percentage of trucks using these roads. It appears that the perceived increase of truck traffic on Higby Road, Mallory Road, and Sessions Road is a direct correlation to the location of new construction in relation to the quarry location (which is east of the Study Area in Herkimer County). Further, the preferred route for the hauling of stone appears to be Higby Road but again, depending on the location of where material is needed for construction, this route varies.

If continued development of the GEIS Study Area continues without a Design Plan (Alternative 1) or follows Alternative 2, which establishes a design, however also permits suburban development of the entire GEIS Study Area, truck traffic to areas situated outside of the growth boundary for development of vacant and agricultural land can be expected to continue. If development follows Alternative 3 or 4, truck traffic may be reduced as a direct result of limiting development to areas within the growth boundary, essentially the hamlets, where large tracts of land are less than that available in areas outside of the hamlets. While a direct correlation to truck traffic and future development of the southern portion of New Hartford is difficult to ascertain, it can be surmised that with continued development of large tracts of land, truck traffic will continue.

3.5.4.7 Public Transit Service

Centro has one bus serving the GEIS Study Area. The Route 31 bus provides service between Union Station in downtown Utica and the hamlet of Chadwicks via Genesee Street and Oneida Street. Build-out of the southern portion of New Hartford, specifically in Washington Mills, may warrant the addition of a route to service this area, especially if the residents attracted to this location are wanting of a pedestrian-accessible community and thus in need of public transit.

3.6 Impacts and Mitigation: The Natural Environment

3.6.1 Soils

The general soils data presented indicate that the primary soil types in the GEIS Study Area are very limited in their use for septic tanks, single-family residential houses and/or small commercial buildings. The major underlying causes of the limitations were generally depth to saturation zone and/or slope. Also of concern is the fact that many soil types in the Study Area are highly erodible and require erosion controls. Care must be taken to ensure that as development occurs erosion is minimized and structures do not exceed soil capacity.

The soil type with the steepest slopes within the Study Area, Honeoye and Cazenovia with 25 to 35 percent slopes, are primarily found in small patches west of Sauquoit Creek and south of Snowden Hill Road. Nine soil types within the Study Area have slopes of 15% or greater and account for a total of 994 acres (10% of the land area). Development in this area would be extensively limited due to the incompatible soil conditions and topography.

When addressing the areas outside the Design Plan boundary, it is important to recognize the existing impediments to developing that area, including topography (slope gradients); prime agricultural lands and soils; and lack of sanitary sewer and water supply and/or poor water pressure in the Northeast, Southeast, and West. Development in areas outside of the growth boundary would require installation of sanitary sewer and piped water supply. For development to occur Southeast and West of the growth boundary, prime agricultural lands would be impacted and topography would present costly challenges for development with respect to existing steep slope gradients.

Alternatives 1 and 2 involve development of vacant, agricultural lands in the entire GEIS Study Area, including Northeast, Southeast, and West areas. Soils designated for agricultural use and areas where the topography restrict development due to slope, exist primarily in the Northeast and Southeast areas of the GEIS Study Area, with some also occurring in the West portion of the Study Area. These existing constraints present variables non-conducive to development.

Alternatives 3 and 4 do not impact areas where the soils are best for agricultural use. While some development would still be permitted, these alternatives aim to protect agricultural land/soils and would promote future development within the hamlets where necessary infrastructure already exists.

3.6.2 Natural Resources

The Town of New Hartford Zoning Ordinance identifies a Natural Resource Protection Overlay District. In the Southern Area, the overlay is located around the reservoirs and between Sauquoit Creek and the rail line. The Overlay provides standards and guidelines to be applied within its boundaries. These standards and guidelines are designed to preserve and protect the Town's natural resources from negative impacts.

Dense woods were noted especially in the western uplands around Sylvan Glen Creek. Under Alternatives 1 and 2, development of the southern portion of the Town, to include areas situate in the Northeast portion of the GEIS Study Area, could impact the natural resources that exist within the protected district. A site plan review would be necessary for any development proposed for this area to determine the viability of development and/or the necessary standards and guidelines that would apply.

3.6.2.1 Wildlife

Under any of the four growth alternatives, impacts to wildlife would be limited to temporary disruption of usual nesting and breeding grounds, with a lesser degree of disruption to migratory routes, though none were specifically noted as occurring in the Study Area. Animals will adapt to the changes in the existing environment through movement to other locations and/or return to the area piecemeal, since development will occur over a period of years rather than all at once. Eighty-five (85) bird species are identified as breeding within Oneida County, including one endangered species, the loggerhead shrike. It is not known specifically, however, whether this bird uses the Study Area and therefore, prior to any development of an area, it is recommended that the NYSDEC be contacted to verify breeding dates and possible locations such that disruption to this endangered species is prevented.

3.6.2.2 Wetlands

Wetlands account for approximately 0.4% of the land area within the Study Area. There are two New York State recognized wetlands but no federally regulated wetlands within the Study Area. The two wetlands in the Study Area are located in the upper northwest portion near Paris Road.

Future growth of the southern part of New Hartford following any of the alternatives would restrict development to areas that are not within a designated wetland. If development were proposed for the area that is a State designated wetland, mitigation measures would be necessary and could consist of replacement in kind in a location that would support a wetland. The other option could be to suggest the voluntary participation in providing fees in lieu of mitigation as a form of a mitigation measure as specified under SEQRA (See section 5.1.5 for further discussion pertaining to fees in lieu of mitigation).

3.6.3 Ground and Surface Water

The bedrock in the Study Area generally does not appear to be capable of providing adequate water quality or quantity for municipal supplies. This poses a concern for potential development in the southwest and southeast corners of the Study Area. Homes and businesses located along Tibbitts, Snowden Hill, Grange Hill, Red Hill, Neals Gulf, and Butler Roads are outside of any Town water district and are served by private residential water wells. Public water mains are not available in these areas (rural hills) and unconsolidated sediments on the valley sides and hilltops are generally thin and are not considered reliable sources of water for municipal or domestic purposes.

Glacial till does not typically yield sufficient groundwater to be considered a potential source for public water systems. The till and other unconsolidated overburden in the uplands are generally thin (less than 40 feet) and have poor permeability. Well yields in the glacial till average 3 gallons per minute (gpm) (Halberg, 1963) and many of these wells are large diameter dug wells. The surficial geology figure indicates kame and kame moraine deposits on the southern upland areas of the Town, but these deposits appear to be elevated above the water table. Groundwater in these kame deposits may not be connected to aquifers capable of long term safe yields that would provide reliable sources of water to public water wells or extensive domestic withdrawals. Water quality is well known to be poor with elevated hardness, iron and sulfate. Of the bedrock formations in the Study Area, only the Frankfort Shale and the Clinton Group are listed as having water of good quality for domestic uses; however, it appears that water from these formations would require treatment prior to use for public water systems.

The bedrock aquifers encountered in these wells appear to provide adequate water volumes for public water supplies but the poor water quality limits the aquifers from being considered cost-effective sources of water for small public water systems. These bedrock formations are also located

under the southern portion of the Town of New Hartford, indicating that similar results would be expected if bedrock aquifers were targeted for public water supplies.

NYSDEC Regulations (6NYCRR Part 653.5) states that a community water system is required when a subdivision consists of 50 lots or more, has over 199 residents, or if individual well yields average under 5 gpm or the groundwater is not potable. Individual groundwater wells can be installed for domestic use when these regulations do not apply.

NYSDOH Appendix 5-B presents minimum standards for construction, renovation, development, and abandonment of water wells. Minimum separation distances established by NYSDOH to protect water wells from contamination are presented in Table 1 of Appendix 5-B of the NYSDOH regulations (see Appendix). The NYSDOH also recommends that individual residential water supply wells be sampled for coliform bacteria and several inorganic parameters (iron, sodium, manganese, ph, hardness, alkalinity, nitrate, and turbidity) prior to homeowner use. The parameter list (NYSDOH Fact Sheet #3) also meets testing requirements set for the US Department of Housing and Urban Development (HUD) Mortgage home loans. The Oneida County Health Department (OCHD) also defers to the NYSDOH Appendix 5-B standards and the recommendations for domestic well water quality testing. The guidance document recommends one representative test well for every 10 proposed lots in a subdivision to be drilled, yield tested, and sampled. Existing wells within 500 feet of the proposed subdivision can be used as test wells pending similar geologic conditions. Average sustained yields of more than 5 gpm are desired with allowances for wells with 2 to 5 gpm that are equipped with at least 400 gallons of supplemental storage.

The yield of bedrock wells appears to be adequate for domestic uses. However, there is a potential that future large subdivisions or adjoining small subdivisions could deplete bedrock aquifers in a localized area. This potential overuse of bedrock water supplies may be a significant concern if lot sizes are small (less than 1 acre) causing a higher density of water users in a small area.

Required separation distances from potential point and non-point sources of contamination can often be difficult to achieve, particularly in subdivisions with smaller (less than 1 acre) lots.

Future subdivision applications for lands not connected to the public water supply system should include a description of what well yield testing and water quality testing will be completed to ensure that individual wells will provide water of adequate quantity and quality. These well tests should meet or exceed the minimum testing required by the NYSDOH and NYSDEC. Town zoning in areas not served by public water may also need to be changed to restrict subdivision lot density, reducing the number of water users in a subdivision area. Residential zoning districts not served by public water and sewer are recommended to have minimum lot sizes of 1 to 3 acres (or greater). Smaller lot sizes should be encouraged where these public utilities are available.

If zoning does not include minimum lot sizes and adjoining small subdivisions are proposed, then additional Township review is recommended with respect to individual water supply wells. Test wells drilled for a newer subdivision (adjoining an existing subdivision) should have well pump testing that includes monitoring of at least 3 wells on the adjoining subdivision. Specifications concerning the requirements for pump testing would be provided in the event a subdivision was to be proposed for construction.

3.6.3.1 Water Quality Mitigation Measures

An existing mitigation measure to protect the Town's water resources exists within its current zoning ordinance. Three specific overlay districts have been established within the Town to set standards and guidelines for streams (Stream Corridor Overlay District), wetlands (Wetlands Overlay

District) and aquifers (Aquifer Overlay District). All overlay districts were developed with the overall intent to preserve and protect current water resources.

Development following Alternative 1 and 2 would permit build-out of the northeast area. This area lies in the Starch Factory Creek drainage basin which is also part of the Mohawk River Basin. It is identified by the USEPA as a Section 303.d Impaired Waterway and as such, special storm water SPDES requirements are necessary prior to development within this area.

3.6.3.2 Secondary Water Quality Impacts

Along with continued development of any municipality, there is usually a direct correlation with the traffic generated as a result of new development. Increased traffic during months of adverse weather can in turn dictate the amount of road salt applied to keep roads ice-free. Road salt becomes a concern to adjacent water bodies, ditches, and or any avenue that facilitates the movement of salt-tainted water runoff to the receiving body of water.

Road salt use on State Routes 8 and 12 and on secondary roads in the area is another concern to water supplies as elevated sodium and chloride can impact shallow aquifers or aquifers in fractured bedrock. Sodium ions also corrode steel well casings rapidly. Due to these potential nonpoint sources of contamination, well location, well construction, and depth of groundwater withdrawals should be considered when installing wells near agricultural lands or primary roads that receive road salt.

3.6.4 Visual

The major visual features were found to be valleys. Eighteen viewpoints contained valleys as a major element, and 16 viewpoints contained ridgelines. Other major visual elements that were frequently listed included houses and hills.

- **Area A:** Development in Area A will be highly visible from across the Sauquoit Valley and would alter the agricultural visual character unless it is screened by terrain or vegetation.
- **Area B:** Development in Area B, while being moderately visible, may not alter the existing visual character unless it is large in scale. This would further require extensive clearing.
- **Area C:** Development in Area C would alter the rural agricultural character of the viewshed. There are also areas of high scenic quality located within Area C.
- **Area D:** Development in this area would have a limited visual impact from the rest of the project area.
- **Area E:** Since this area has limited visibility toward it, development would have a limited visual impact.
- **Area F:** Development in this area would have a limited visual impact.
- **Area G:** Development in this area would have a limited visual impact due to the limited visibility and the fact that it is already developed.

A review of Figure 4.4-6, Scenic Quality, indicates that areas having the highest scenic quality correspond with areas where the elevation varies considerably, i.e. along Snowden Hill Road, Red Hill Road, and Grange Hill Road. Likewise, areas situated east of the Sauquoit Creek valley, along Mohawk Street and Higby Road, are considered to have a scenic quality rating of 'High'. A third, albeit somewhat removed correlation to areas having the highest scenic quality rating, is recent building permit requests. These areas have witnessed requests for new residential building permits over the period of 2000-2007, more so than any other location in the Study Area, with slight

exception to Tibbitts Road, where the relative level topography allows for the construction of new residential units. These correlations are most likely due to these areas having some of the highest elevations within the Study Area, thereby offering an unimpeded view of the Sauquoit Creek Valley and the Mohawk River Valley, two sought-after viewsheds.

3.6.5 Archeological

In areas of large-scale suburban development where there is little to no potential for deeply buried archeological deposits, such as the suburban housing in the northeast corner, archeological potential is considered low. However, along the NY 8 corridor, there is still a high potential for archeological sites, especially mill- and industry-related sites, in areas like parking lots and public parks. In these locations, sites are more likely to be buried beneath natural alluvial soils or fill used to raise the modern ground surface above the creek flood level. Some segments of the Sauquoit Creek have been altered for flood control.

Two historic farmstead sites were discovered during the survey. Site WP1 was located very close to the project area on Higby Road about one-half mile (0.8 km) east near the Higby Hills Country Club. The site was considered by the archeologists to be eligible for listing on the National Register, although no OPRHP determination of eligibility was found. Site WP2 was located nearly adjacent to the southern border of the Study Area on Mohawk Road. This site was another 19th century farmstead with foundation remains and an associated domestic sheet midden (household debris) deposit. This site was also considered to be eligible for listing on the National Register but no official determination was found on file (WAPORA, Inc. 1990). These are typical types of sites that could be found throughout the rural reaches of the Study Area.

3.6.5.1 Higby, Mallory, Sessions, and Roberts Roads, Tilden Avenue and Mohawk Street

The survey covered nearly 11 miles (17.6 km) of water lines within the right-of-way of the abovementioned roads. Although no archeological sites were reported as a result of the survey, there were four areas where low-density sheet midden deposits, or a scatter of historic artifacts, were identified.

Sessions, Mallory, and Roberts Roads, Tilden Avenue, and Mohawk Street all had similar characteristics and historic features (Photos 1-3). The landscape was typically gently rolling and sloped to the west towards the valley. Historic features were limited generally to large late-19th-century farms and a few houses. No archeological sites were identified, although historic maps suggest that there may be contexts associated with New Hartford's short-lived iron industry.

Oxford Road is one of the older roads in town and is noted in local documentation of the earliest settlers. Today, the route is crowded with historic and modern houses and farms. Much of the center of Washington Mills bears little obvious relation to Oxford Road's historic characteristics.

Another large map-documented mill structure existed on the west side of Oneida Street where the stream passed under the road in Chadwicks. There is no evidence of the structure on the surface, but remains may exist beneath the adjacent parking lots. Opposite this location, the P.S. Eastman house still stands, although it has been enveloped in a modern church structure (Photo 17). South of these locations the historic character of the hamlet returns and historic homes dominate the landscape.

The large parking lots around existing facilities may hold evidence of earlier mill structures. The earlier mill complex was located south of Bleachery Avenue between the creek and Oneida Street. Several of these buildings still stand and other structural remains may exist below parking lots at the volunteer fire company and the commercial development south of Bleachery Avenue.

There were three small precontact sites north of the Study Area around Campion Road and Yahundahsis Lake. The Study Area was certainly within the range for hunting and gathering plant resources of any number of large Mohawk River Valley Native American settlements.

Generally speaking, there is variable sensitivity for precontact archeological sites in the Study Area. In areas of previous disturbance, the potential for finding these sites is low. This pertains especially to the large residential developments where landscape disturbance is widespread and the topsoil is relatively shallow, leading to maximum disturbance of possible archeological deposits. The highest sensitivity for precontact sites is along the Sauquoit Creek valley. This corridor would have been an important travel route for Native Americans from the Mohawk River Valley and the Great Lakes to the north and west to access the Susquehanna River Valley to the south. Between the two drainages, the hills have veins of chert that was used for making stone tools. Also, areas of alluvial soils may have preserved buried sites in the valley floor, depending on the character of flooding in any given portion of the valley.

Overall, the Study Area is moderately sensitive for precontact archeological sites. One especially sensitive location is a plowed field bordered on the north by a stream and Mallory Road, south by Sessions Road and west by Oneida Street. The field features a terrace overlooking the Sauquoit Creek to the west and a wide flood plain. This is a likely site for longer-term encampments featuring more specialized activities such as nut or game processing, fishing, or a base camp.

There are no records of 18th-century mills in the Study Area; most of these early mills were located on Sauquoit Creek in the northern end of the Village.

One historic archeological site was noted on Chapman Road. The M. Blackstone site is located at a bend on the south side of the road just east of a new school.

HIGBY & MOHAWK STREETS

All four of the archeological sites in the New Hartford Study Area are located near recent residential development and may in the future be subject to disturbance. Additionally, the 1852, 1858, and 1874 maps all note a schoolhouse on Higby Road opposite the intersection with Mohawk Street. No evidence was seen of the schoolhouse, but the location had been filled recently, perhaps to fill a cellar hole, although usually schools do not have cellars. This location should be considered archeologically sensitive.

There are likely to be archeological deposits associated with each of the map-documented iron mines and possibly at nearby domestic sites. One resident told of how a previous owner of her house on Tibbitts Road once oversaw the workers at the iron mine south of the road and looked after their well-being.

There were three historic archeological sites located on Higby Road. Most of this road was marked by post-World War II development with some new development at Higby Hills and other places. The North Wadsworth site is located about 500 feet west of Mohawk Street on the north side of the road.

CHADWICKS

Currently, the sites of the Beckwith Leather Company and the Standard Silk Company are athletic fields. There are likely structural and archeological remains beneath this modern landscape. Much of the 19th-century residential character of Chadwicks is still intact and there are likely archeological contexts from the historic period associated with each house.

3.6.6 Air Quality

Oneida County is in attainment for ozone. Future build out of the community is not anticipated to change this status. However, if future development of the southern portion of New Hartford occurs as a result of an influx of population, it can be presumed that the number of vehicles and trip generation rates would increase. This is based upon the realization that the number of vehicles per household is synonymous with the number of occupants per household (typically). Additional trips can be expected to be generated by future development. As a result of this anticipated increase in automobiles per household and trips per household, the air quality could be impacted. This would be especially true in areas of traffic delays. The degradation of air quality would be temporary and confined to the area of traffic back-up. Degradation in air quality would be dissipated after traffic congestion eases. It is not anticipated that the ozone attainment status of the County would change as a result of any future development. Further, development would occur presumably over a period of years, or would consist of other than single family residential and as a result impacts to air quality would not be anticipated.

3.6.7 Noise Quality

Currently ambient noise levels in the hamlets and the entire southern area have not been identified as a concern. With continued development of the Study Area, following any of the four alternatives, noise impacts would be limited to an increase in automobile traffic, however it is not anticipated that any increase in traffic would result in an increase in ambient noise levels warranting a noise study analysis. The conceptual hierarchy and street patterns identified as part of the Design Plan are such that facilitation of traffic in, around, and between the hamlets and points east and west (in agricultural areas) would be better managed resulting in anticipated less queuing of cars at signalized intersections; more free-flow movement of traffic between the hamlets (via existing Route 8 Arterial); and overall better management of traffic within each hamlet via community streets and connector roads. Current noise quality impacts in the Study Area are noted on Roberts Road where truck traffic has been a source of complaints for years. The traffic is generated outside of the study area – the trucks are passing through. The level of truck traffic would not be affected by an increase in residential settlements.

3.7 Impacts and Mitigation The Socio-Economic Environment

This section presents those elements of a community that identifies the quality of life one can experience as a resident or visitor to New Hartford. It defines the community in terms of its provisions for safety and education; economic development; and recreational facilities and open space. Impacts anticipated as a result of future development of the GEIS Study Area per any one of the four alternatives are presented collectively for each element.

3.7.1 Population

Population trends within the Town of New Hartford indicate that people are moving out of the area, however, building permits for new houses, and specifically within the GEIS Study Area, would indicate otherwise in that there have been many issued since 2000. This implies that people are not moving out of the Town of New Hartford so much as moving to other locations within the town. At the same time that building permits for new houses has increased, population over this same period decreased. This implies a further possible trend: smaller families in larger, new homes.

While the alternatives for future growth in the Study Area will not directly dictate or affect population trends in the Town, establishing the southern area, specifically the hamlets of

Washington Mills and Chadwicks, as medium density residential with commercial, could spur movement to the area and/or additional trips to these areas from locations outside of the Study Area, specifically if the main corridors of each hamlet foster medium density housing with commercial on the first floor.

Development within the Design Plan boundary will be designed such that one acre parcels will accommodate up to three residential units. This could ultimately attract first-time home-owners who are interested in affordable housing coupled with a community that promotes pedestrian access to amenities. Further, implementation of the Design Plan fosters residential development in the hamlets of Washington Mills and Chadwicks as opposed to areas outside of these hamlets in areas that are primarily agriculture and/or cannot support development due to topography, lack of water resources/service, and soil type that does not support foundations, to name a few constraint variables. This concentration of residential development will be done such that the small town charm is not lost and existing social environments and relationships are maintained or enhanced through changes in streetscape which will offer a hamlet atmosphere along Oneida in Chadwicks and Oneida and Kellogg Roads in Washington Mills.

Following the details of the Design Plan as a base for development within the hamlets, medium density housing mixed with floor-level commercial use will dominate the corridors that define Washington Mills and Chadwicks. Townhouses, condominiums, and apartment dwellings will serve as the choice of new housing. The purpose of this design is to invoke more density in the hamlets and consequently pedestrian-friendly roadways, slower and/or lesser traffic flow, and as a result, the potential for a concentration of commercial and business uses within the hamlets.

3.7.2 Police

The current population (permanent and temporary) in New Hartford (entire Town) already warrants additional police officer protection. According to the New York State Department of Criminal Justice Service (DCJS), the standard is one officer per 1,000 people, where the population includes permanent and temporary individuals. Using this standard, the Town (entire) should have 25 police officers instead of the current 24.5 full time equivalent. While this number is reflective of that within the entire Town and not just the Southern Area, it can be surmised from this that the need for additional officer protection within the southern Area is also warranted.

With the full build out under any of the alternatives, population increases are anticipated, though it is not entirely known whether the increase in population will consist of a transferring of existing Town population to locations within the Study Area, or if it will be population entering the Town from areas outside of New Hartford. Development under Alternatives 1 and 2, growth will occur within the entire Study Area and conceivably be distributed to a larger area than if Alternatives 3 and 4 were implemented. Alternatives 3 and 4 focus development in a more concentrated fashion, specifically within the hamlets. Given that the population of New Hartford as a whole has not increased since 2000, and projections for increase in future population of the town are low, the potential for an influx of new population to the southern area is equally low. Therefore, impacts to the level of police protection within the Study Area would be less. By 2030, less than one additional police officer would be needed to serve the population increase created by the Study Area. The concentration of the population in Alternatives 3 and 4, would allow the police force to concentrate their resources.

3.7.3 Fire

Three fire companies provide service to the entire Town. The New Hartford Fire Department is the largest within the tri-county area. A review of the equipment associated with each fire company was conducted as part of identifying the inventory of the Study Area. It was determined from this information that all three fire companies have staff and equipment to meet current and future needs.

There are three ambulance companies that provide service to the entire Town. A review of their capabilities with respect to the service area each is responsible for covering determined that there is an adequate supply of ambulance services under existing conditions. Similar to police protection, although difficult to predict and determine, if population increases significantly as a result of implementation of any of the four development alternatives, a reassessment of the need for additional ambulance service may be necessary.

3.7.4 Schools

The New Hartford Central School District serves a majority of the Study Area, with a smaller portion being served by Sauquoit Valley Central. Three elementary, One Junior High School and One High schools comprise the New Hartford School District. One elementary and one high school within this district are located within the Study Area. There is also a private elementary facility located in the Study Area (United Cerebral Palsy). A Capital Improvement Project, which was previously approved in March 2007, will provide for some major renovations within the New Hartford School District. Development of the Southern Area can occur following one of four Alternatives. Population projections are typically used in determining the need for new and/or renovated schools based on anticipated enrollment. The Town of New Hartford has not been experiencing new population growth, rather, population has been redistributed from parts of New Hartford and regionally to locations within the southern portion of the Town. This reallocation of population could have an impact upon existing schools merely from a logistical standpoint: national standards require public schools be proximate to the homes of students that attend the schools. Reallocation of population into the Study Area could also possibly place the school in a situation where teacher/student ratio exceeds national standards, thereby requiring hiring of teachers to better the ratio and consequently the possibility of new building construction.

Although enrollment is not anticipated to increase significantly in the Study Area as determined by population projects, a redistribution of school-age individuals is plausible that may invoke an impact to an otherwise suitable facility. Upgrades to existing school facilities and/or the construction of a new facility could be warranted as a result of a full build out based on Alternatives 1 & 2 more so than Alternatives 3 & 4, where anticipated housing will be medium density (condominiums, townhouses, apartments) and attractive to older individuals and/or those without children.

3.7.5 Recreational Facilities

3.7.5.1 Existing Conditions

Standards for the recommended number of recreational facilities for a township are determined by factoring the total population of the municipality of which the facilities will serve. The Town of New Hartford, through public meetings, discussed with the residents the need for more recreational facilities. The public indicated their desires to see more recreational facilities throughout the Town. Based on their input, various standards were adjusted, mostly on the positive, to indicate a need for additional facilities. Presented in this section are the facilities in which the Town has identified a deficit based on their developed standards.

A recommended new standard of 1 playing field for every 3,000 population versus the NRPA recommended standard of 1 for every 5,000 people was suggested by the Town for implementation for baseball fields. The Town is in a current deficit of baseball fields, having a need for 4 additional. For softball fields, the same standard and revised recommendation as determined by public input was established, indicating a need for 2 additional softball diamonds. The Town has a current deficit of 1 playing field for field hockey; the standard indicates 1 field for every 20,000 population; the Town did not recommend deterring from this standard in that most hockey fields can be doubled for other sports, i.e. lacrosse. With respect to mixed field use, there is no established ratio for recommended number of facilities; however the Town suggested 1 field per 3,000 population, thereby putting them at a current deficit of 2 fields. For basketball, the NRPA standard is 1 for every 5,000 population. The Town adjusted that to reflect 1 for every 2,000 population, putting them at a current deficit of 3 courts. Multiple recreation courts, for basketball, volleyball, and tennis, have a standard of 1 court per 10,000 people. The Town did not alter from this standard and as such is currently in need of 2 courts. The standard requirement for skate parks is 1 per 50,000 people; the Town did not deviate from this standard and as such is currently in need of 1 skate park. The Town also has a need for 1 swimming pool, as the standard calls for 1 pool per 20,000 people. For natural skating areas, the standard is 1 per 2,500; the Town deviated from this to indicate only 1 for every 10,000, thereby putting them at a current deficit of 2 natural skating areas.

3.7.5.2 Impacts and Mitigation - All Growth Alternatives

At full build out, each growth alternative could result in additional population in the Southern Area of the Town of New Hartford. This would have a direct correlation to the number of recreational facilities required as discussed above. By 2030, no one particular alternative would grow the study area more than the other since they are all based on a constant rate of development. The population would be more spread out in Alternatives 1 and 2. Alternatives 3 & 4 allow recreational facilities to be located within walking distance of a larger number of people. Regardless of how the Town is built-out, there is a current identified need for additional facilities.

3.7.6 Economy

In order to preserve the character of the Town of New Hartford, the alternatives concentrate commercial growth in the hamlets. These commercial centers are envisioned to serve residents of the Southern Area generally and the residents in and around the hamlets specifically. A large influx of commercial growth is not anticipated as a result.

3.8 Mitigation Costs – Fees In Lieu Of Mitigation

As the Town develops, government can expect demand for services to increase. Normally, these costs are shouldered by residents and businesses through local real estate taxes. However, there are circumstances under which development generates more than its fair share of demand for services. In the case of two previously prepared GEIS studies for the Town of New Hartford, it was shown that New Hartford's Commercial Drive and French Road areas are regional shopping and retail destinations, generating adverse impacts from outside of the community as well as from within. These impacts, mainly traffic and public safety, are mitigated during the development process through design and construction considerations and/or voluntary Fees In Lieu of Mitigation.

In the case of the Southern Area of the Town of New Hartford, the adverse impacts can generally be expected to be generated from within, mainly by residential development, and these potentially adverse impacts can be expected to be wide-ranging. Their intensity will be exacerbated as development continues and because of the conditions identified in this study, they are local to the southern portion of the Town. As a result, the cost of mitigating these potentially adverse impacts should be borne where they are generated.

Implementation of fees in lieu of mitigation (FILM) is an option the Town could pursue to supplement the Town's existing capital expenditures for these items. Mitigation costs would be presented as a voluntary contribution that comes from the developer; is based on an established formula for specific itemized Town improvements that are a direct result of the development, i.e. transportation, land for recreational uses; and are proportioned such that no developer or private citizen is inadvertently overcharged (or charged) for items that would otherwise not be needed if it were not for the proposed development. The premise of implementing FILM is to provide an option to developers for mitigating potentially adverse impacts that are anticipated as a result of proposed development.

Under SEQR, providing the option of having a developer contribute fees in lieu of mitigation is considered to be a "means of mitigation and as such are not mandatory, rather a choice to provide a means to mitigate the impacts imposed upon the environment"¹ (within the Study Area and/or off-site) as a result of a project. Along those lines, providing this option to developers should be treated as a 'last resort' to mitigating impacts; if a developer presents a plan for mitigation of impacts to the Town, this plan ought to be considered for implementation versus collection of fees for future improvements.

Previously prepared GEIS studies for the French Road/Burrstone Road area and the Commercial Drive/Seneca Turnpike area presented a proposed cost implementation plan for the collection and distribution of fees in lieu of mitigation for projects that were proposed for these areas of the Town. Within this Plan, a method for composing the formula to use in collection of fees was provided. This method was reviewed in concert with this GEIS along with other municipalities where State enabling legislation exists as a basis for allowance of mitigation costs. Further, the National Realtors Association was reviewed in determining appropriate building costs.

¹ Letter from Rayhill & Rayhill (Phillip Rayhill) – Town of New Hartford Attorneys to Joseph W. Sarno, Chief Examiner of Municipal Affairs, Office of the State Comptroller, November 29, 1994 Re: fees in lieu of mitigation

4.0 Environmental Setting

4.1 Regional Context

4.1.1 Study Area Location and Description

The Town of New Hartford is located in central New York State, within Oneida County. New Hartford is situated 200 miles northwest of New York City, between the cities of Syracuse and Albany. It is approximately 100 miles south of the U.S.-Canadian border and 100 miles north of the New York-Pennsylvania border.

The Study Area consists of 9,703 acres of land area in the southern portion of the Town of New Hartford, New York. The Study Area is roughly bounded by the border of the Town of Paris to the south, the Town of Frankfort border to the east, the Town of Kirkland border to the west and to the north by New Paris Road, Paris Road, Canterbury Road, Bolton Road, Hoffman Road, Croft Road, Thurston Boulevard, Higby Road, Valley View Road and Pleasant Street.

The Study Area represents the portion of the Town that is currently primarily devoted to agricultural and low density residential land uses. The Sauquoit Valley Arterial (Route 8), a principle north-south transportation corridor within the Town, bisects the Study Area and carries travelers to a regional commercial center along Commercial Drive in the northern portion of the Town. New York State (NYS) Route 8 and other major transportation routes in and around the Town serve as inter-regional and intra-regional connectors. The New York State Thruway (I-90), located approximately 3 miles north of the Town of New Hartford, provides interstate service and connects with NYS Routes 5, 8 and 12. NYS Route 12 is the primary north-south transportation corridor for the New Hartford/Utica area and provides inter-regional routes to the City of Binghamton to the south and the Adirondack region to the north. NYS Route 5 provides inter-regional service to communities to the east and west. NYS Route 8 and 840 provides access to the Town of Whitestown to the north and to Binghamton to the south. Another regional transportation connector is the Griffiss International Airport, which is located 12 miles northwest of the Town of New Hartford in the adjacent Town of Whitestown.



Figure 4.1-1 GEIS Study Area Boundary
Town of New Hartford

4.1.2 Summary of Adjacent Municipality Community Plans

4.1.2.1 Town of New Hartford 2007 Comprehensive Plan Update

The Town of New Hartford recently prepared and adopted its 2007 Comprehensive Plan Update. The Comprehensive Plan Update for New Hartford emphasizes the importance of preserving and enhancing town character while accommodating new opportunities for economic development. The role of the Comprehensive Plan is to provide a framework to guide decision-making in the future as Town leaders strive to strike a balance between conservation and development.

The Future Land Use Plan in the 2007 Comprehensive Plan Update provides a vision for the physical development of the community. The Future Land Use Plan sustains the Town and its quality of life by allowing for future growth including a range of residential choices and a continued diversification of the economy. It also embraces environmental sustainability for the Town by addressing the limitations of the land including the persistent storm water issues, traffic problems and other issues. The major elements of the Future Land Use Plan are a green corridor, neighborhood areas and a greenway.

The green corridor is located along the major transportation routes in the Town. The idea is to create an identity for this corridor, which is comprised of different roads.

Four neighborhood areas are envisioned: Regional Commercial Center, Village Area, Traditional Area and Historic Area. The Neighborhood Areas represent unique local areas where enhancements and commercial businesses will be focused. Each has a different character based on both current and proposed development. In the Southern Area, the Traditional and Historic Areas surround the Hamlets of Washington Mills and Chadwicks respectively.

The greenway is the area outside of the neighborhoods. The Greenway is comprised of trails, wherever feasible, and greenspace in other areas. It will generally define the boundary between the Neighborhood Areas and the less developed outlying areas.

4.1.2.2 Comprehensive City Plan, Utica, New York

The City of Utica's Comprehensive City Plan was prepared in 1950 by Harland Bartholomew and Associates of St. Louis Missouri. The Plan identified traffic congestion and lack of adequate parking facilities as issues to be addressed. The gradual modernization of the street system and provision of ample off-street parking facilities in the downtown area were recommended to address these issues. Almost 20 streets were identified for a change in traffic flow, elimination of curb parking and/or increase in pavement width. The Plan recommended eliminating over 2,000 curb parking spaces. To compensate for the lost of on-street parking, it recommended that the municipality acquire, develop and operate off-street parking facilities in the central business district that would provide a similar number of parking spaces.

The Plan also recommended improving the transit system and other transportation modes (air, rail, highway and water). Recommended adjustments to transit routes included the elimination of bus turning movements on Genesee Street in the central business district, connecting routes east of Genesee Street with routes west of Genesee Street to provide cross-town service and the relocation of certain routes to avoid duplication of services. The Plan also recommended that a new terminal be developed at the Hamilton Hotel to accommodate interurban bus lines. The creation of a Union Terminal Authority was recommended to acquire land, build the bus terminal facilities and coordinate operations of the different interurban bus companies. Proposed improvement to rail facilities included a new overpass and underpass and improvement to an existing grade separation.

A long-range Financial and Capital Improvement Program was included for implementing the major proposals of the plan over a 25-year period.

4.1.2.3 The New Hartford Village Plan 1971-1973

The New Hartford Village Plan was prepared in 1973 by Russell D. Bailey and Associates. The report is organized into three sections: Community Character, Village Plans and Planning Action. The community character section discussed land use and population patterns and was the basis for developing the other elements of the Plan. The Village Plan section discussed the street system, the business district, community design and community facilities. Proposed improvements were also provided. The Planning Action section addressed two implementation measures: development of an ongoing capital improvement program and the use of codes and ordinances.

Proposed street system improvements included widening the following roadways to carry more traffic: Genesee Street (from Paris Road to Village line), Oxford Road (from Park Mill Street to Village line), Paris Road, Sanger Avenue, Hartford Terrace and Bohling Road.

Alternatives for the Business District included enhancing the appearance of existing structures in the business district or the creation of a new nine-acre Commercial Center. The new Commercial Center would consist of three buildings: an enclosed shopping mall containing 24 retail stores (75,000 sq. ft.), a supermarket (20,000 sq. ft.) and a bank branch (5,000 sq. ft.).

Another recommendation was that a study of the feasibility of updating the New Hartford Shopping Center be conducted. The enclosing of the mall to provide more attractive access, parking, lighting and screening along the property lines was also suggested.

4.1.2.4 Master Development Plan for the Central Business District of the Village of New Hartford, New York

The Master Development Plan for the Central Business District (CBD) of the Village of New Hartford, New York was prepared in 1977, by Dyrvea and Wilhelmi Professional Corporation. It was undertaken to address aspects of the community's structure that had not kept pace with changing attitudes and conditions. The Master Development Plan identified revitalization objectives, summarized existing conditions and opportunities, and offered a list of priority actions to bring about needed improvement.

Recommended actions included:

- Reduction of the on-street parking by 40% to permit the widening of the pedestrian corridor and expansion of the widths of traffic lanes
- Development of public off-street parking at three sites in the CBD that were privately owned to offset reduction in on-street parking
- Building rehabilitations and enhancements to community images such as store front rehabilitation and improvements to several buildings on Genesee Street and the removal of two structures. The demolition of one structure would provide space for a "village green" and the second would provide space for a small pedestrian plaza
- Reuse of the Point School Building for a public function such as library, senior citizens activities etc.
- Redevelopment of two sites that were occupied by gas stations to provide additional retail and/or office opportunities
- Development of a comprehensive Village-wide signage and graphics program to improve way-finding and the overall character of the Village

4.1.2.5 The Master Plan - Villages of Whitesboro, Yorkville and New York Mills

The Master Plan for the Villages of Whitesboro, Yorkville and New York Mills was prepared in 1969 by Russell D. Bailey and Associates. The three villages are located in the Town of Whitestown. During the period between 1940 and 1960, the Town had experienced rapid population growth. The joint plan was prepared to address the impacts of that growth in the three municipalities. The Master Plan consisted of six detailed and technical reports and a summary report. The summary report highlighted the basic data for the three villages, the community plans and the means by which the plans could be implemented under one cover.

The Village of New York Mills Development Plan indicated the following recommendations for improvement:

Traffic-ways - Widen Campbell Avenue; provide turning lanes at the intersection of Burrstone Road and Main Street and study the feasibility of constructing a full channelized intersection at this location with another bridge over Sauquoit Creek and; provide connection from Main Street to Commercial Drive via Church Street.

Commercial Drive - Continue to encourage neighborhood-level commercial activity and provide off-street parking.

Residential - Preserve and enhance the residential character of the Village through participation in the part-county sewage district; use of subdivision and zoning regulations and consideration of townhouse and apartment developments on the basis of planned residential units.

Community Facilities and Open Space - Develop a new library building in the Village center; acquire and develop land along the Hydraulic Canal and Sauquoit Creek for park and open space purposes; participate in the part-county sewer district; preserve architectural landmarks and encourage good community appearance.

4.1.2.6 Gateway Historic Canal District Revitalization Plan

The Gateway Historic Canal District Revitalization Plan was developed in 2005 to target strategic public investment to an area located adjacent to the Utica Central Business District. A plan was created that sought to match the needs of Utica residents and businesses with the dictates of the economic market.

The Gateway Historic Canal District Revitalization Plan presented project goals and identified potentials for land uses such as light industrial, commercial, residential, and recreation. The following recommendations were included in the physical master plan:

Site Amenities - Create a “new” Bagg’s Square West Historic District with open space that acts as a gateway to the City and the study area, develop new mixed used units and green corridor adjacent to Bagg’s Square West and expand the existing Memorial Auditorium to include health club facilities, additional recreation space for court sports and new banquet facilities. Commercial development would be primarily smaller-scaled buildings suitable for single and multiple tenants.

Vehicular Circulation - Develop a gateway at Genesee and Oriskany Street, redevelop Oriskany Street as a landscaped boulevard, reconfigure Water Street to accommodate future industrial development and realign and extend Washington Street to provide a primary north-south artery for the District.

Pedestrian Circulation - Incorporate special features, such as fountains and sitting areas, into the green space to make it inviting; close Whitesboro Street, between Cornelia and Hotel Streets, to accommodate pedestrian circulation and larger-scale development; close Seneca Street to develop an open green space with pedestrian trails; and develop sidewalks along all corridors.

Parking - Provide below-grade parking for the Auditorium to the west of the building and north of Whitesboro, which would be shared with the industrial development and use internal lots to accommodate parking for residential development.

4.1.3 Proposed Regional Projects affecting the Study Area

4.1.3.1 New York Regional Interconnect

New York Regional Interconnect is a high powered electrical transmission line that has been proposed to carry large amounts of energy more efficiently from energy producing areas of Upstate New York to areas of greater demand in the New York City Region. The proposed transmission line would run from just north of the City of Utica to Orange County. The proposed route passes through the Town of New Hartford and the Southern GEIS Study Area.

The original proposal for the project was to construct large transmission towers along the whole route to carry the transmission lines. This has raised wide opposition to the project with opponents saying that the towers would ruin the character of their communities. The company has revised its plans and now intends to run 21.6 miles of the electrical line underground. There will still be 168 miles of line traversing the state above ground and there is still strong opposition to the project. In the Southern GEIS Study Area, the proposed route will follow the length of the railroad right-of-way running parallel to the Sauquoit Arterial.

Although underground, the proposed route of the New York Regional Interconnect would alter the Design Plan, particularly in the Hamlet of Chadwicks.

Because of concerns among leaders and residents of the Town of New Harford regarding the potential future impact of NYRI, the Town Board adopted policy on May 17, 2006 voicing strong opposition to the NYRI project.

On April 3, 2009, New York Regional Interconnect (NYRI) announced that, while it remains committed to transmission development in New York State, it is suspending its current participation in the New York Public Service Commission (PSC) Article VII process for its 1200MW HVDC project. The March 31st decision by the Federal Regulatory Commission (FERC) denying NYRI's request to review the recently approved rules of the New York State Independent System Operator (NYISO) for transmission tariffs has created an unacceptable financial risk for NYRI's investors. Even if the NYRI project were to be sited by the PSC, NYRI would face the prospect of being unable to recover transmission cost from the ratepayers who would benefit from the project.

4.2 Land Use Inventory

The existing, observable land use of each parcel in the Study Area is important because it reveals the pattern of past growth, the location of areas that should be preserved, and the potential locations for future development. An Existing Land Use Map (Figure 4.2-1) has been prepared for the Study Area showing the current land use classification for each parcel.

The analysis of the existing land use is based on the New York State (NYS) Real Property Service codes that are used for assessment purposes in the Town. The total acreage devoted to each use is shown in the table below.

4.2.1 Existing Land Use

The Study Area consists of 15.2 square miles or 9,703 acres of land area. With a few exceptions, land use information included in this discussion is based on the NYS land use code of the real property database. Apartments and mobile home parks were taken out of the commercial category and listed as high density residential. Recreational land uses were divided into commercial, community service and open space categories depending on the use. An on-site land use survey was taken to fill in missing data and correct outdated information. The land use classifications are described in subsequent sections. A geographic information system (GIS) was used to summarize the area of the parcels by land use category. The resulting totals that are presented below do not include the area of road right-of-ways. The following table represents the distribution of land uses in the GEIS Study Area:

Table 4.2-1 Summary of Land Use

Land Use	Acres	Percent
Agriculture	3,573	39.1%
Low Density Residential	2,904	31.8%
High Density Residential	68	0.7%
Commercial	78	0.9%
Industrial	3	0.0%
Community Service	166	1.8%
Public Service	259	2.8%
Open Space	39	0.4%
Vacant	2,047	22.4%

Source: Town of New Hartford and peter j. smith & company

4.2.1.1 Agriculture

Agriculture land uses include land devoted to the growing of crops, orchards and livestock. Nearly 40% of the land in the Study Area is dedicated to these uses. Agricultural uses are found throughout the Study Area with the largest areas found along Tibbitts Road (west of the Hamlet of Washington Mills) and the southeast corner of the Study Area.

4.2.1.2 Residential

Residential land uses occupy nearly a third of the Study Area. There is a mix of single-family and two-family houses along Oneida Street in the Hamlet of Chadwicks. Several neighborhoods of single-family homes are concentrated around Oxford Road on the west side of the Hamlet of Washington Mills and off Higby Road to the east. New high-end housing is being built in the area around Pleasant Street, the northeast border of the Study Area and off Tibbitts Road near Oxford Road. There are several estates and large lot single-family properties that occupy a significant amount of land area with few total residential units.

High-density residential areas in the Study Area include mobile home parks and apartment complexes. There is a mobile home park on Oneida Street near Red Hill Road. Several apartment complexes are located north and west of Washington Mills.

4.2.1.3 Commercial

Generally, there are two types of uses that are classified as commercial property: retail sales outlets and offices. Less than 1% of the Study Area is classified as commercial. Most of the commercial property that is present is dedicated to retail sales. Commercial nodes exist in the Hamlets of Washington Mills and Chadwicks.

Figure 4.2-1 Existing Land Use

This page is a placeholder. Because they are in an 11-by-17 tabloid format, maps are provided separately to facilitate printing and viewing.

4.2.1.4 Industrial

Industrial uses occupy 3 acres of the Study Area on Bleachery Avenue in the Hamlet of Chadwicks.

4.2.1.5 Public Service

Parcels designated as public service uses are utility infrastructure such as sub-stations, water towers and communication towers. Railroad corridors are also classified as public service. Public service uses account for 2.8% of the Study Area. The majority of this area is occupied by the reservoirs on Valley View Road. The reservoirs are no longer used but are being held by the Mohawk Valley Water Authority in reserve. There is also an active railroad corridor that runs parallel to the Sauquoit Arterial; trains run through this corridor approximately three times per week.

4.2.1.6 Community Service

Community service uses can be either public or private land dedicated to serving community needs and can include government offices, churches, schools, and medical facilities. Less than 2% of the Study Area is used for community services. The largest of these parcels are the E.R. Hughes and Perry School complex, Brookside School, and the Charles T. Sitrin Health Care Center. There are also several churches located in the Study Area.

4.2.1.7 Park and Open Space

Park and open space areas make up less than 1% of the Study Area. The Washington Mills Athletic Fields and Donovan Memorial Park are the only areas designated as open space in the Study Area.

4.2.1.8 Vacant

Vacant land differs from open space in that it is not dedicated to recreation or preservation. These parcels have either not been developed yet, have been abandoned, are undevelopable or were once but are no longer being farmed. More than a fifth (22.4%) of the land in the Study Area is vacant. Large areas of vacant land can be found around Higby Road and Tilden Avenue, between Chapman Road and Sessions Road, and between Red Hill Road and Grange Hill Road. There are also several vacant parcels found along the Sauquoit Valley Arterial.

4.2.2 Zoning Regulations

The Town of New Hartford is currently divided into 21 zoning districts. Of these districts 15 are located in the GEIS Study Area. There are three agricultural districts, three residential districts, three commercial districts, three planned development districts, one manufacturing district, one institutional district, and one park district. In addition to the base districts there are five overlay districts: Stream Corridor Overlay District (SCOD), Wetlands Overlay District (WOD), Aquifer Overlay District (AOD), Steep Slope Overlay District (SSOD) and Natural Resource Protection District (NRPD). The overlay districts are designated to protect environmental areas and limit development in flood plains. The types of uses allowed and bulk requirements are established for each district in the form of a schedule of uses, area, and bulk regulation charts. Control over the design of developments is done through site plan review. The following table shows the distribution of zones by area in the Study Area:

Table 4.2-2 Existing Zoning Districts

Zone	Zone Name	Acres	Percent
P	Park	38	0.4%
A	Agriculture	4,390	45.2%

Zone	Zone Name	Acres	Percent
RA1	Residential Agriculture 1	594	6.1%
RA2	Residential Agriculture 2	1,584	16.3%
LDR	Low Density Residential	1,868	19.3%
MDR	Medium Density Residential	371	3.8%
HDR	High Density Residential	99	1.0%
RB2	Retail Business 2	155	1.6%
RB3	Office Business	5	0.1%
RB4	Neighborhood Business	26	0.3%
M	Manufacturing	61	0.6%
I	Institutional	122	1.3%
PDI	Planned Development Institution	238	2.5%
PDMH	Planned Development Mobile Home	19	0.2%
PDRES	Planned Development Residential	131	1.4%

Source: Town of New Hartford

4.2.2.1 Agricultural Districts

Together, the three agricultural districts cover more than two-thirds of the Study Area. The uses allowed in all three districts are similar but there are differences in the minimum lot size for dwelling units. The stricter Agriculture (A) Districts are located on the west side and southeast corner of the Study Area. Two of the districts (RA1, RA2) are designed to be transitional zones between a more committed Agricultural District and the residential districts. These districts are located: between Mohawk Street and the Sauquoit Arterial (covering an area from approximately Chapman Road to south of Roberts Road); along Tibbitts Road on the north and south sides as it nears Oxford Road; and along Tilden Avenue (primarily along the east side up to the GEIS Study Area border).

4.2.2.2 Residential Districts

Residential districts make up nearly one-quarter of the land in the Study Area. Most of this area is zoned Low Density Residential (LDR), which is dedicated to single-family residential units, but allows some community services. LDR districts are located primarily on the north side of the Study Area. The Medium Density District (MDD) allows for smaller lot sizes than the LDR and permits two-family dwellings. These districts are located in the Oneida Street/Oxford Road corridor outside of the commercial cores of the two hamlets. The High Density Residential District (HDR) allows for even smaller lots for single and two-family dwellings. The district also allows multi-family dwellings. HDR districts are generally smaller and located in existing multi-family developments along Oxford Road.

4.2.2.3 Commercial Districts

The three commercial districts cover less than 2% of the Study Area. The RB2 district is geared towards retail business. The largest RB2 District is found at the intersection of Chapman Road, Kellogg Road, and Oneida Street in Washington Mills. There is also an RB2 District located in Chadwicks along Oneida Street near Grange Hill Road. The RB3 District is designed for office developments. The Study Area has a small area zoned as RB3 on Tibbitts Road at Kellogg Road. The RB4 district is designed for small-scale retail to serve the surrounding neighborhoods. The largest RB4 district is located along Oneida Street at Elm Street. Another RB4 District is located along Kellogg Road.

4.2.2.4 Planned Development Districts

Planned development districts allow for greater flexibility in the layout of developments than would be allowed in the regular districts. The Zoning Code of the Town of New Hartford provides seven different types of planned developments. There are three types of planned developments located in the Study Area representing 4% of the total area. The largest is a Planned Institutional Development district on the north side of Higby Road. The Sitrin Health Care Center is included in this area, but much of this district is still undeveloped. A planned mobile home district located at the end of Bleachery Avenue has already been developed.

4.2.2.5 Manufacturing District

There are 61 acres of land zoned for industrial uses located along Oneida Street at Bleachery Avenue in Chadwicks. A small portion of this district has been developed.

4.2.2.6 Institutional District

Institutional Districts represent 1.4% of the land within the Study Area. The existing facilities at the E.R. Hughes and Perry School complex and United Cerebral Palsy Center are zoned for institutional use. There is also an area along the Sauquoit Arterial that has not been developed.

4.2.2.7 Park District

The 38 acres zoned as the Park District are located over the existing facilities of Donovan Memorial Park and the Washington Mills Athletic Complex.

Figure 4.2-2 Current Zoning

This page is a placeholder. Because they are in an 11-by-17 tabloid format, maps are provided separately to facilitate printing and viewing.

4.3 The Built Environment

4.3.1 Storm water and Drainage

4.3.1.1 Existing Stormwater Infrastructure

Although the Town is currently operating under a Municipal Separate Storm Sewer System (MS4) in conformance with NYSDEC SPDES regulations, each village, hamlet, or development provides individual storm drainage systems that may vary greatly from each other. Typically, in settled residential areas, storm sewer systems consist primarily of a series of catch basins, roadside ditches, and subsurface piping systems that direct water in the most direct route to a drainage easement or stream. In the hamlets of Chadwicks and Washington Mills, the storm sewer systems are more centralized, and systems of pipes have been designed to converge and outfall in one common area. Rural or agricultural areas within the Study Area typically convey stormwater via roadside ditches and swales.

4.3.1.2 Drainage Area Model

The entire Study Area lies within the Mohawk River Basin. A total of 17 primary drainage areas have been identified throughout the Study Area. The drainage areas, streams and rivers are depicted on the Stormwater Drainage Areas Map (Figure 4.3-1).

A total of 11 drainage areas within the Study Area are part of the Sauquoit Creek Watershed. The Sauquoit Creek is a tributary to the Mohawk River, with the confluence located in Yorkville. For a majority of the Study Area, 13 of the drainage areas (1 through 4 and 6 through 14) discharge surface water flow directly to the Sauquoit Creek. Drainage area 5 discharges to Mud Creek north of the Study Area and then converges with the Sauquoit Creek near the intersection of NYS Route 8 and Routes 5 and 12, outside of the Study Area.

Drainage areas 15, 16, and 17 are outside of the Sauquoit Creek watershed and are situated on the northeast side of Higby Road. These drainage areas generally direct surface water to the northeast, and ultimately discharge to Starch Factory Creek in the City of Utica. Starch Factory Creek is a tributary to the Mohawk River with the confluence located in East Utica.

4.3.1.3 Methodology

For this study, the software model InfoSWMMM™ for ArcGIS™, as provided by MWH Soft, Inc. was utilized to provide hydrology modeling for the project. InfoSWMMM™ is a comprehensive ArcGIS™-centric hydraulic and water quality simulation model for the effective management of urban stormwater and wastewater collection systems. The model solves St. Venant's equations for open channel flow through the use of a dynamic wave model. Therefore, it is important to note that the information presented as part of this study may not necessarily be compatible with or present data equivalent to the output of other common stormwater hydrology models.

To create the InfoSWMMM model, a GIS model for the Study Area was created, then supplemented as required, to encompass the drainage areas that extend beyond the Study Area limits. Specifically, drainage area boundaries typically extend into the Town of Kirkland, Town of Paris, Town of Litchfield and/or Town of Frankfort. The GIS database mapping for the primary storm sewer infrastructure throughout the Study Area had to be created so that a baseline of existing conditions could be derived.

The GIS model was created from existing and available aerial photography and geographic information from the United States Geological Survey and other Town of New Hartford and Oneida County data sources. Since no GIS information existed for the Town-wide storm water infrastructure prior to this project, GIS database information was obtained from the United States Soil Conservation Service field office in the Town of Marcy and consisted of the approximate locations of storm sewer catch basins, outfalls, manholes and other features in the Study Area. Other specific and supplemental information, including connecting pipe configurations, pipe sizes, discharge points was field collected. The information collected was used for planning purposes only and is not for actual storm water design.

4.3.1.4 Design Storm Events

One recent storm was selected as design storms based on known impacts within the Study Area. For this storm, hourly rain gage information collected at a gauging site situated within the Study Area, just north of Higby Road on Graffenburg Road was used to model the rainfall intensity. Rainfall from the June 27, 2006 storm was used to model a long-duration design storm. A total of 2.98 inches of rain fell over nearly a 24-hour period during this event, causing substantial and documented street flooding and residential damage. Table 4.3-1 presents the 24 hour distribution of rainfall during this storm.

The second storm utilized in this evaluation was the United States Department of Agriculture, Soil Conservation Service (SCS) 10-year periodicity, Type II, 24 hour storm. This commonly used design storm is typically used as the basis for engineering design projects, and assumes that 3.8 inches of rainfall will fall over the watershed area over a single 24-hour period. The intensity of rainfall during the 10-year design storm is modeled as a standard distribution, over a 24-hour period. In addition, a Type II storm signifies that the intensity is an inland (e.g. non-maritime) storm. The 10-year periodicity may also be interpreted as the 10% probably storm, or a storm that will statistically fall over an area only once every 10 years.

Table 4.3-1 New Hartford Design Rainfall Models
Design 24-hour Rainfall Intensity

Hour	June 27, 2007 Rainfall (In)	SCS 10-Year Design Storm
0	0	0.040
1	0.04	0.044
2	0.1	0.048
3	0.23	0.051
4	0.15	0.057
5	0.04	0.065
6	0	0.072
7	0	0.080
8	0	0.103
9	0	0.129
10	0.02	0.205
11	0.13	1.626
12	0.06	0.414
13	0.01	0.182
14	0.01	0.127
15	0.21	0.101
16	0.85	0.083
17	0.52	0.073

Hour	June 27, 2007 Rainfall (In)	SCS 10-Year Design Storm
18	0.36	0.063
19	0.05	0.054
20	0.02	0.048
21	0.02	0.047
22	0.08	0.044
23	0.07	0.043

Source: www.wrunderground.com, Station KNYNEWHA1 and SCS TR-55
Storm Data for 10-Year, 24-hour, Type II storm in New Hartford NY.

4.3.1.5 Identified Hydrologic Problem Sites

Numerous hydrologic problem areas have been reported and are well documented throughout the southern portion of New Hartford. Many areas of excessive runoff have been identified, and corrective measures are being addressed by the Town either through improved maintenance procedures, or through long-term engineering solutions. These areas include the residential areas along and to the west of Tilden Avenue, the area which encompasses Woodberry Road and the associated watershed, and the watershed area along the alignment of Tibbitts Road from Snowden Hill Road to Kellogg Road.

Focus group meetings held in June 2007 indicated the following areas experience apparent flooding during severe storm events: Red Hill Road at Oneida Street; Tibbitts at Oxford Road; Pleasant Street, located in the Northeast portion of the Study Area, as it heads further south; and Chapman at Oneida Street. In addition, flooding has been identified as being intermediate at the following locations: along Oxford Road south of Kellogg Road where it then meets with Tibbitts; along Red Hill road where the slope of the land increases thereby causing a cascading flow of stormwater; along Mohawk Street where it nears Higby Road; and along Valley View Road as it approaches Taber Drive (in the northeast section of the Study Area). Other areas where the roadways become temporarily flooded include (listed from Chadwicks to Washington Mills): Mohawk Street as it enters the Town (north of Paris town boundary) and as it continues northward just before Roberts Road and then again where it intersects Mallory Road; Higby Road at Valley View and Chapman (three-way intersection); Valley View for a portion of the west boundary of the Study Area; and a portion of Tibbitts Road in the northwest portion of the Study Area.

Information derived from the InfoSWMMM™ model for the watershed has identified and quantified several areas that suggest that hydrologic problems may be exhibited during storm events. As stated previously, no detailed town-wide survey of storm drainage infrastructure took place prior to this study, hence once a problem area is identified, field information must be collected to confirm or more specifically address site-specific drainage characteristics at that point. Site-specific information can be collected by interviews with Town Officials, or by residents in the vicinity of identified problem areas. In addition, other site-specific information is collected and includes: an evaluation of the existing GIS information, and more accurate survey and mapping of existing storm infrastructure, along with a detailed downstream assessment of the area.

4.3.2 Municipal Water System

Residents and businesses within the GEIS Study Area get their water from two possible sources: public water mains or private wells. Refer to earlier sections for a general discussion regarding local hydrogeology.

The older populated sections of the GEIS Study Area are generally served by public water supplied by the Mohawk Valley Water Authority (MVWA). The MVWA obtains its water from the Hinckley Reservoir. Water is treated at a state of the art water filtration plant. The MVWA's service area includes the City of Utica and all or parts of 15 Towns and Villages. The MVWA owns and operates all facilities (treatment, storage, transmission, and distribution) within its service area. Municipalities are responsible for funding and constructing water main extensions and related projects that benefit localized areas. Where larger capital projects are determined to provide a larger regional benefit, the MVWA may fund a portion or all of those project costs. Projects that involve private development (i.e., residential subdivisions, commercial development) generally require that the developers fund and construct the improvements necessary to accommodate their specific project.

As indicated on the Water System Inventory Map, within the Town of New Hartford, the MVWA operates service zones established by system operating pressure. Service zones in New Hartford include:

- Intermediate Zone
- High Zone
- High-High Zone
- Washington Mills Zone
- Upper Higby Zone (constructed in 2005)

In addition, other areas within the Town are served by public water for domestic use only due to existing localized low water pressure conditions. These include the Glen Crest subdivision (Oneida Street, Washington Mills), the Jubilee Estates and Longworth Acres subdivisions (Tibbitts Road/Oxford Road), and Whitetail Meadows. Small hydro-pneumatic stations with small booster pumps provide domestic service but are insufficient for fire protection.

Within the Study Area, the MVWA owns, operates, and maintains approximately 40 miles of water main, 5 water storage tanks, and 4 booster pump stations.

With respect to water service, the Study Area can generally be divided into two sections: area east of NYS Route 8/Sauquoit Creek and area west of NYS Route 8/Sauquoit Creek.

The easterly area has water mains that front the majority of existing public roads within established water districts. The exceptions include upper Roberts and upper Mallory Roads due to existing sparse development. Ample water storage and pressure exists within this area to support existing use.

Figure 4.3-1 Storm water Drainage Areas

This page is a placeholder. Because they are in an 11-by-17 tabloid format, maps are provided separately to facilitate printing and viewing.

The older housing developments in the area west of NYS Route 8 that generally front or have access to Oneida Street are within established water districts and served by public water mains. However, homes and businesses located along Tibbitts, Snowden Hill, Grange Hill, Red Hill, Neals Gulf, and Butler Roads are outside of any Town water district and are served by private residential water wells. It has been reported that many of these properties have difficulty with their wells due to slow recharge rates and/or poor water quality. The Town of New Hartford has conducted preliminary studies that explore the potential for establishing one or more water districts to encompass properties that front these roads. Until such time that water districts in the outlying areas are formed and public water mains constructed, the use of private wells will be necessary. In these cases, hydrogeologic considerations will need to be addressed by future builders/developers in order to avoid self-imposed hardships.

4.3.3 Sanitary Sewer System

Wastewater disposal for residential and commercial properties within the Study Area is achieved by one of two methods, municipal sanitary sewer service and private septic systems.

Those properties which have access to municipal sewer service are included in the Town of New Hartford Sewer District as well as the regional Oneida County Sewer District (OCSD). Sewage treatment occurs at the Oneida County Wastewater Treatment Plant (WWTP) in North Utica, approximately 3 miles northeast of the Study Area.

Sanitary sewage reaches the WWTP through the Town-owned sewer collection system and is then transported via OCSD interceptor sewers. The Town's sewer system within the Study Area is almost exclusively operated by gravity. With the exception of one very small pump station on Camden Way, which serves three homes, there are no pump stations owned or operated by the Town in the Study Area. Two OCSD interceptor sewers are used to transport sewage through and from the Study Area to the WWTP: the Sauquoit Creek Interceptor and the Starch Factory Creek Interceptor. Approximately 60,000 lineal feet of sewer line that is Town-owned carries discharge to the Starch Factory Creek Interceptor. Approximately 125,000 lineal feet of sewer line that is also Town-owned carries discharge to the Sauquoit Creek Interceptor.

The Starch Factory Creek Interceptor is a 24-inch diameter sewer that flows solely by gravity directly to the WWTP through the western portion of the City of Utica. There are no pump stations in this portion of the county interceptor. The Sauquoit Creek Interceptor is a 30-inch diameter sewer that originates in the Village of Clayville and flows adjacent to Sauquoit Creek to the Sauquoit Creek Pump Station (SCPS), located in the Village of Whitesboro. This interceptor sewer also collects wastewater from the Towns of Paris and Whitestown, and the Villages of Clayville, New Hartford, New York Mills, Whitesboro, Yorkville, and Oriskany. The SCPS then pumps the wastewater to a 60-inch diameter sewer main near the corner of Wurz and Leland Avenues in the City of Utica, where it then flows by gravity to the WWTP.

The SCPS currently has issues with wet weather overflows. These intermittent overflows discharge to the Mohawk River. Historically, these overflows have been termed as combined sewer overflows (CSO), but the OCSD SPDES permit renewal has reclassified these overflows as sanitary sewer overflows (SSO). Unidentified sources of inflow and/or infiltration (I/I) are suspected to be the cause of extraneous, non-wastewater flows entering the public sewer system.

The New York State Department of Environmental Conservation (NYSDEC) and OCSD have entered into an Order on Consent to address the issues with sanitary sewer overflows at the SCPS. The Consent Order pertains specifically to wet weather discharges into the Mohawk River from the SCPS service area (which encompasses the Study Area) and includes a schedule of project tasks and deadlines for completion. Specifically, among other things, the Consent Order requires that a 5 to 1 removal ratio be attained when any new sanitary sewer flow is introduced into the sanitary sewer system. This means that for every one gallon of new sanitary wastewater introduced into the system, another five gallons must be removed through I/I removal projects. A plan to accomplish the Consent Order was completed in 2008. A bank of sewer flow credits was established to fund I/I remediation projects. Developers will have to buy credits in order to extend the sewer system to their development or undertake an I/I mitigation project of their own. Municipalities can undertake mitigation projects to earn credits and subsequently charge developers to use them. The plan will be in place until sewer flows at the Sauquoit Creek Pumping Station are compliant with DEC regulations.

Similar to water service, the Study Area can generally be broken into two sections:

- Area served by the Sauquoit Creek Interceptor; and
- Area served by the Starch Factory Creek Interceptor.

The Sauquoit Creek Interceptor serves the majority of the Study Area that has municipal sewer service. The portion of the Study Area with municipal sewers served by the Starch Factory Creek Interceptor is generally north and east of Higby Road.

Generally, municipal sewers serve developed areas within the lower elevation of the Study Area. As development has spread from the older, developed areas, the Town sewer district and infrastructure have been expanded to serve those areas. Portions of land within the Study Area, however, still rely on private septic systems. But as indicated previously in this GEIS, the type of soil in these areas are generally not suitable for this use.

To date, there have been no comprehensive studies relating to existing sewer system capacities, or likely system expansions to serve additional portions of the Study Area. Typically, new areas have been brought into the sewer district as development occurs with the cost of the infrastructure borne directly by the developers and deeded to the Town at the completion of construction.

Figure 4.3-2 Water System Inventory

This page is a placeholder. Because they are in an 11-by-17 tabloid format, maps are provided separately to facilitate printing and viewing.

Figure 4.3-3 Sanitary Sewer System Inventory

This page is a placeholder. Because they are in an 11-by-17 tabloid format, maps are provided separately to facilitate printing and viewing.

4.3.4 Transportation

The existing transportation system serving the Study Area is described in this section. The potential traffic impacts of four different land use alternatives for future development are compared. Strategies for maintaining vehicular mobility and enhancing other transportation choices are then described.

4.3.4.1 Existing Conditions – Roadways

The transportation system within the GEIS Study Area includes State Highways and County and Town roads. NYS Route 8 is the primary north-south arterial through the Study Area, and has an average annual daily traffic (AADT) of 20,200 vehicles north of Kellogg Road. Between Kellogg Road and Elm Street, the AADT is 10,900. This roadway is the primary link between the southern portion of the Town and the commercial district in the north. Route 8 is a limited access arterial, and a full set of access ramps are provided at Kellogg Road/Chapman Road (Washington Mills). A partial set of access ramps (on ramp for northbound Route 8, off ramp for southbound Route 8) are provided at Elm Street. NYS Route 12 is located on the western boundary of the Study Area, and carries 5,000 vehicles per day.

An inventory of roadway conditions in the Study Area was compiled to document roadway width, speed limit, pavement condition, and jurisdiction. The transportation system inventory for the Study Area is shown in the table that follows.

Table 4.3-2 Study Area Roadways

Street Name	Number of Lanes	Lane Width (ft)	Paved Shoulder Width (ft)	Speed Limit (mph)	Pavement Quality	Jurisdiction
Tibbitts Road	2	9.75	3/3	55	Good	Town
Oneida Street (north of Elm)	2	10.50	5/5	35	Good	Town
Oneida Street (south of Elm)	2	10.00	5/5	40	Good	Town
Red Hill Road	2	9.50	Varies 3 to 5 each side	Varies 35 to 55	Good	C.R.-13
Snowden Hill Road	2	10.00	3/3	Varies 45 to 55	Fair to Good	Town
Oxford Road	2	10.25	6/6	35	Good	C.R.-26A
New Paris Road	2	11.00	Varies 8 to 9 each side	55	Good	S.R.-12
Chapman Road	2	11.00	4.75/4.75	35	Good	C.R.-24
Valley View Road	2	10.25	Varies 2 to 2.5 each side	45	Good	Town
Higby Road	2	10.25	4/4	45	Good	Town
Mohawk Street	2	10.00	Varies 2.5 to 3 each side	Varies 30 to 55	Good	C.R.-20
Mallory Road	2	11.50	0	40	Good	Town
Sessions Road	2	10.00	Varies 1.75 to 2 each side.	40	Fair to Good	Town
Roberts Road	2	10.00	4/4	50	Fair to Good	C.R.-13
Echard Road	2	12.00	0	55	Poor to Fair	Town
Elm Street	2	9.875	2/2	30	Poor to Fair	Town
Grange Hill Road	2	9.50	Varies 1.5 to 2 ea.	Varies 30 to 45	Poor to Good	Town
Butler Road	2	10.75	0	55	Fair to Good	Town
Neals Gulf Road	2	10.50	0	55	Poor to Fair	Town

Source: Hatch Mott MacDonald

4.3.4.2 Existing Conditions – Traffic

Manual turning movement counts were conducted in late February and early March of 2007 at the following intersections:

Table 4.3-3 Manual Intersection Counts

Intersection	Control Type
Oxford Road at Kellogg Road	Stop control on Kellogg
Oxford Road at Tibbitts Road	Stop control on Tibbitts
Oxford Road at Oneida Street	Stop control
Oneida Street at Grange Hill Road	Stop control on Grange Hill
Oneida Street at Elm Street	Stop control on Elm Street
Chapman Road at Oneida Street	Traffic Signal
Kellogg Road at Rt. 8 NB ramps	Stop control on ramp
Kellogg Road at Rt. 8 SB ramps	Traffic Signal
Oneida Street at Roberts Road	Stop control on Roberts
Rt. 8 Ramps at Elm Street	Stop control on ramp

In addition, traffic counts were obtained from the Town for the following intersections.

- Chapman Road at Higby Road – Traffic Signal
- Higby at Tilden – Stop control on Tilden
- Higby Road at Mohawk Street – Stop control on Mohawk Street

Turning movement data was collected during the weekday morning (7:00 – 9:00) and afternoon (4:00 – 6:00) peak periods. All turning movement count data and figures showing existing AM and PM peak hour volumes are included in the Appendix.

The traffic operations in the Study Area were analyzed for the morning and afternoon peak hour using Synchro Version 6.0. Synchro uses the methodology prescribed by the Highway Capacity Manual 2000 for the analysis of signalized and unsignalized intersections. The analyses quantify the delay experienced by drivers, and express this delay as a qualitative measure called Level of Service (LOS). LOS is described by letter grades, with ‘A’ representing minimal delay, and ‘F’ representing unacceptable delay. LOS D is generally considered the minimum acceptable Level of Service.

The results of the LOS analysis of the Study Area intersections are summarized in the table that follows. In general, all intersections currently have acceptable LOS, except the off ramp from northbound Route 8 at Washington Mills. Vehicles making left turns from this ramp can experience long delays during peak periods.

Table 4.3-4 Level of Service Summary

Intersection	2007 Existing LOS (delay time in seconds)	
	AM	PM
UNSIGNALIZED INTERSECTIONS		
Oxford Road at Kellogg Road		
NB	A (0.0)	A (0.0)
SB	A (7.0)	A (6.1)
WB	B (11.5)	B (10.2)
Oxford Road at Tibbitts Road		
NB	A (0.4)	A (0.1)
SB	A (0.9)	A (0.4)
EB	B (11.8)	B (11.4)
WB	B (11.8)	B (13.5)
Oxford Road at Oneida Street		
NB	A (1.5)	A (2.2)
SB	A (0.0)	A (0.0)
EB	B (11.4)	B (11.2)
Oneida Street at Grange Hill Road		
NB	A (0.4)	A (0.8)
SB	A (0.0)	A (0.0)
EB	B (10.0)	B (10.5)
Oneida Street at Elm Street		
NB	A (0.0)	A (0.0)
SB	A (2.7)	A (2.5)
WB	B (10.5)	B (10.7)
Elm Street at Route 8 SB Off-Ramp		
EB	A (0.0)	A (0.0)
WB	A (0.0)	A (0.0)
SB LT/RT	A (8.7)	A (9.0)
Elm Street at Route 8 NB On-Ramp		
EB	A (5.8)	A (3.2)
WB	A (0.0)	A (0.0)
Oneida Street at Roberts Road		
NB	A (0.0)	A (0.0)
SB	A (1.8)	A (3.5)
WB LT	B (11.6)	C (16.3)
WB RT	B (10.8)	A (9.5)
Kellogg Road at Route 8 NB Ramps		
EB	A (4.1)	A (2.7)
WB	A (0.0)	A (0.0)
NB LT/RT	D (30.3)	F (116.0)
SIGNALIZED INTERSECTIONS		
Kellogg Road at Route 8 SB Ramps		
EB	B (10.8)	B (10.3)
WB	B (10.6)	B (11.0)

Intersection	2007 Existing LOS (delay time in seconds)	
	AM	PM
SB LT/RT	A (7.3)	B (10.3)
OVERALL	A (10.0)	B (10.5)
Oneida Street at Kellogg-Chapman Roads		
EB	B (13.0)	A (7.9)
WB	B (16.1)	A (9.8)
NB	B (12.6)	B (11.0)
SB	A (4.6)	A (5.8)
OVERALL	B (13.0)	A (8.3)
Higby Road at Chapman-Valley View Roads		
EB	B (13.1)	B (13.8)
WB	A (10.9)	A (8.9)
NB	A (9.8)	B (11.1)
SB	A (7.0)	A (8.8)
OVERALL	B (10.5)	B (10.6)

Source: Hatch Mott MacDonald

Synchro Reports for LOS analysis were provided in the Appendix of the 2007 Comprehensive Plan Update.

4.3.4.3 Signal Warrant Analysis

Two intersections were analyzed to determine if they met warrants for signalization. Traffic volumes at the intersections of Oneida Street at Grange Hill and Oneida Street at Elm Street in the hamlet of Chadwicks were compared to the requirements contained in the NYS Manual of Uniform Traffic Control devices. Based on current traffic conditions at the intersections, neither intersection warrants a traffic signal. The 24-hour traffic counts and signal warrant analysis forms were provided in the Comprehensive Plan.

4.3.4.4 Accident Analysis

Traffic accident reports for the most recent three-year period were obtained from the Town of New Hartford Police Department. Accidents were grouped by intersection, and accident rates were calculated for each intersection. These accident rates were compared to statewide averages for similar intersections, and in all cases, the existing accident rate was greater than the statewide average for similar intersections. Accident rates are calculated per million entering vehicles (MEV). Thus, at rural intersections with low volumes, one or two accidents in a short period of time can distort the true accident rate. A total of 43 accidents were analyzed, resulting in 9 injuries. The accident data by intersection is summarized in the table that follows.

Table 4.3-5 Intersection Accident Rates

Intersection	Accidents	Injuries	Accident Rate	Statewide Average Rate
Roberts Road/Mohawk Street	3	1	1.25	0.35
Red Hill Road/Oneida Street	2	1	0.64	0.16
Elm Street/Oneida Street	1	1	1.34	0.16
Oxford Road/Oneida Street	2	0	0.43	0.16
Higby Road/Mohawk Street	9	1	1.80	0.16
Higby Rd./Valley View/Chapman	9	0	1.06	0.59
Oneida St./Chapman/Kellogg Road	12	1	0.83	0.59
Grange Hill Road/Oneida Street	2	0	1.20	0.16
Sessions Road/Oneida Street	1	0	0.23	0.16
Mallory Road/Oneida Street	1	2	0.23	0.16
Roberts Road/Oneida Street	1	2	0.22	0.16

Source: Hatch Mott MacDonald

A summary of the accident reports were provided in the Appendix of the Comprehensive Plan.

Capacity and safety improvements are addressed in Section 5 of this GEIS. Access management areas are essentially of issue in Washington Mills along the Kellogg Road/Chapman road corridor. Improvements for this area are addressed further in Section 5 of this GEIS.

4.3.4.5 Potential Capacity Improvements

There are no significant capacity concerns with existing traffic. However, the Kellogg Road/Chapman Road corridor is near capacity during peak times. The numerous access points and vehicles making turns in and out of driveways cause delay to vehicles.

4.3.4.6 Safety Improvements

The intersections with the highest accident rates were Roberts Road at Mohawk Street, Higby Road at Mohawk Street, Elm Street at Oneida Street, and Grange Hill at Oneida Street. These four locations will be looked at in detail and specific recommendations will be developed.

4.3.4.7 Access Management Areas

Access management should be considered for the Kellogg Road/Chapman Road corridor as discussed in 'potential capacity improvements' subsection.

4.3.4.8 Traffic Signal Coordination

Traffic signals in the Kellogg Road/Chapman Road corridor should be coordinated with either a time based system or with wireless interconnect. Wireless interconnect is proving to be an inexpensive way to improve the operation of traffic signals, and could be linked to Traffic Operations Center for the Town or the county in the future.

4.3.4.9 Streetscape Improvements

Streetscape improvements have been developed for Washington Mills and Chadwicks. The traffic effects of streetscape improvements such as curb bump-outs, diagonal parking, and high visibility crosswalks, will be considered in the future analysis. Other streetscape improvements include landscaping and sidewalks.

4.3.4.10 Truck Traffic

A concern about truck traffic from the east using Roberts Road and Oneida Street has been voiced. Data collected in early March did not indicate a higher than normal percentage of trucks using these roads. However, the concern was that the trucks that did use these roads are carrying stone from a quarry located east of the Town. The trucks are noisy and may damage the roadway due to their weight.

4.3.4.11 Freight Truck Traffic

According to the Herkimer-Oneida County Transportation Study 2005-2025, the U.S. Federal Highway Administration projects a doubling of truck traffic (nation-wide) in the next 20 years. The State of New York is projected to follow that trend with expected increases occurring in urbanized areas and the interstate highway system. A projection analysis using 1998 baseline data obtained from the Highway Performance Monitoring System for truck networks within Herkimer-Oneida Counties indicates that certain routes or highways within that network will see a significant increase in truck traffic in 2010 and 2020. Route 8 South is projected to experience a 35 % increase (from baseline Year 2005) in truck traffic by 2010, and a further increase of approximately 58% by 2020. State Route 12 North is projected to experience an increase of 39% by 2010 and a further increase of 68% by 2020.²

4.3.4.12 Public Transit

Public Transit Service Centro has two buses serving the Study Area. The Route 131 bus provides service between Union Station in downtown Utica to the Hamlets of Washington Mills and Chadwicks via Genesee Street and Oneida Street. Route 24 also serves Washington Mills on an intermittent schedule during the weekdays.

4.3.4.13 Pedestrian Access

Sidewalks exist sporadically in the GEIS Study Area, primarily within the hamlets of Washington Mills and Chadwicks. Concerns for a lack of sidewalks in the Study Area were expressed during the focus group and public input sessions. Residents and business owners of New Hartford desire a more walker-friendly community for health and economic purposes. In locations where sidewalks do exist, they are situated very close to the travel lane, are in need of repair, or may have been installed without continuation or connectivity to another sidewalk, although one may be planned in the future.

4.3.4.14 Transportation Improvement Funding

The Town of New Hartford receives a portion of funding for highway and transit improvements through the Transportation Equity Act of the 21st Century (TEA-21). TEA-21 is a continuation of the original Intermodal Surface Transportation Efficiency Act (ISTEA) of 1991 which amended Section 135 of Title 23. The amendment requires the development of a Statewide Transportation Improvement Program (STIP) for all areas of the State of New York.

In addition, Centro-Utica Public Transit, which provides bus service to and from the Study Area, has been identified to receive federal monies. The monies are designated to assist with operations, tour line haul service, preventive maintenance, bus replacement, and bus shelter replacements at 15 locations.

² Destinations 2005-2025 - HOCTS Long Range Transportation Plan, <http://www.oneidacounty.org/hoctsmo/LRTP.pdf>

The Transportation Equity Act for the 21st Century (TEA-21) further requires that the State MPOs prepare a long-range transportation plan and that it be a realistic plan developed within reasonably expected resources. This is then used to help identify projects for funding and prioritization.

The Herkimer-Oneida County Transportation Study (HOCTS) serves the Study Area with respect to identifying transportation projects for improvement funds. HOCTS anticipates \$480 million in traditional highway and bridge construction funds over the next 20 years.³ The highest priority use for these funds is for maintaining the existing transportation system. Highway projects within New Hartford that are identified in the Long-Range Transportation Plan (LRTP) include:

- Route 5 West (Kirkland to New Hartford) - Route 5 & 5A (Jay-K Intersection)
- Route 20 (Scenic Byway): Oneida County – Herkimer County

³ Destinations 2005-2025 - HOCTS Long Range Transportation Plan,
<http://www.oneidacounty.org/hoctsmo/LRTP.pdf>

4.4 The Natural Environment

4.4.1 Soils

There are 51 different soil types within the Study Area, according to the US Department of Agriculture (USDA) Natural Resources Conservation Service (NRCS). These various soil types are interspersed throughout the Study Area and each soil type has characteristics that impact the uses that it can accommodate.

NRCS soil surveys classify soils based on their potential limitations if applied to specific uses. The “very limited” classification indicates that the soil possesses one or more features that are unfavorable for the specific use and which generally cannot be overcome without major soil reclamation, special design, or expensive installation procedures. Of the 51 soil types in the Study Area, 48 types (98% of land area) are rated as very limited for septic tank absorption fields, 22 types (24% of land area) very limited for dwellings without a basement, 39 types very limited for dwellings with a basement and 29 types very limited for small commercial structures. Thirteen soil types (61% of land area) within the Study Area are classified as prime farmland and an additional 10 soil types (7 % of land area) as farmland of statewide importance. Twenty-four soil types within the Study Area, representing 74% of the land area, are classified as highly erodible land (areas on which erosion control efforts should be concentrated).

The land in the Study Area varies from level to slopes of up to 45%. Soils with slopes of 15% to 25% are considered moderately steep and those with slopes above 25% are considered steep. The soil type with the steepest slopes within the Study Area, Honeoye and Cazenovia, 25 to 35 percent slope, is primary found in small patches west of the Sauquoit Creek and south of Snowden Hill Road. Nine soil types within the Study Area have slopes of 15% or greater and account for a total of 994 acres (10% of the land area). These include:

Honeoye and Cazenovia Soils, 25 to 45 percent slopes – 407 acres

Honeoye Silt Loam, 15 to 25 percent slopes – 190 acres

Cazenovia Silt Loam, 15 to 25 percent slopes – 177 acres

Lansing Silt Loam, 15 to 25 percent slopes – 78 acres

Lairdsville Silt Loam, 25 to 25 percent slopes – 58 acres

Manlius Channery Silt Loam, 25 to 45 percent slopes – 39 acres

Aurora Silt Loam, 15 to 25 percent slopes – 32 acres

Manlius Channery Silt Loam, 15 to 25 percent slopes – 7 acres

Farmington-rock Outcrop Complex, 15 to 25 percent slopes – 6 acres

The majority of the soils (78%) in the Study Area fall into 12 classifications. The general characteristics of those soils and the land uses for which those soils are unsuitable are described in the table that follows. The locations of the major soil types are indicated on the Soils Map

Table 4.4-1 Characteristics of Significant Soil Type

Soil Type	Percent of Study Area	Acreage	Available Water Capacity	“Very Limited” Land Uses	Prime Farmland	Highly Erodible Land
Lima Silt Loam, 3 to 8% slopes	21%	2,022	Moderate	Septic tank absorption fields Dwellings with basement	Yes	Yes
Amenia Silt Loam, 3 to 8 percent slopes	15%	1,417	High	Septic tank absorption fields Dwellings with basement	Yes	Yes

Soil Type	Percent of Study Area	Acreage	Available Water Capacity	“Very Limited” Land Uses	Prime Farmland	Highly Erodible Land
Cazenovia Silt Loam, 3 to 8 percent slopes	13%	1,206	High	Septic tank absorption fields	Yes	Yes
Lansing Silt Loam, 3 to 8 percent slopes	7%	623	High	Septic tank absorption fields	Yes	Yes
Appleton Silt Loam, 3 to 8 percent slopes	5%	500	Moderate to High	Septic tank absorption fields Sewage lagoons Dwellings without basement Dwellings with basement Small commercial buildings	Yes, if drained	No
Honeoye and Cazenovia Soils, 25 to 45 percent slopes	4%	407	Moderate to High	Septic tank absorption fields Dwellings without basement Dwellings with basement Small commercial buildings	No	Yes
Howard Gravely Loam, 0 to 3 percent slopes	3%	302	High	Septic tank absorption fields Sewage lagoons	Yes	No
Honeoye Silt Loam, 8 to 15 percent slopes	2%	222	Moderate to High	Septic tank absorption fields Sewage lagoons Dwellings with basement Small commercial buildings	No	Yes
Lansing Silt Loam, 8 to 15 percent slopes	2%	219	High	Septic tank absorption fields Sewage lagoons Small commercial buildings	No	Yes
Cazenovia Silt Loam, 8 to 15 percent slopes	2%	205	High	Septic tank absorption fields Sewage lagoons Small commercial buildings	No	Yes
Appleton Silt Loam, 0 to 3 percent slopes	2%	192	Moderate to High	Septic tank absorption fields Sewage lagoons Dwellings without basement Dwellings with basement Small commercial buildings	Yes, if drained	No
Honeoye Silt Loam, 15 to 25 percent slopes	2%	190	Moderate to High	Septic tank absorption fields Sewage lagoons Dwellings without basement Dwellings with basement Small commercial buildings	No	Yes

Source: USDA Natural Resources Conservation Services Soils Survey

The general soils data presented indicate that the primary soil types in the Study Area are very limited in their use for septic tanks, single-family residential houses and/or small commercial buildings. The major underlying causes of the limitations were generally depth to saturation zone and/or slope. Also of concern is the fact that many soil types in the Study Area are highly erodible and require erosion controls. Care must be taken to ensure that as development occurs, erosion is minimized and structures do not exceed soil capacity.

The soils information presented in this discussion is not site specific. Onsite investigation of soils or testing and analysis by personnel experienced in the design and construction of engineering work is necessary prior to land development. Land development must also comply with standards and guidelines identified in the Town’s Zoning Ordinance for the Steep Slope Overlay District and identified controls for erosion, sedimentation and storm water runoff.

4.4.2 Natural Resources

Available information on the distribution of vegetation and wildlife at the local level is limited. Therefore, information on plant and wildlife species known or suspected to exist within the County as a whole is also provided and the assumption is made that those species may be located in the Study Area.

No Critical Environmental Areas (CEAs) have been identified in Oneida County, according to the New York State Department of Environmental Conservation. CEAs are geographic areas that have earned special protection under State Environmental Quality Review Act regulations because of their exceptional or unique characteristics.

4.4.2.1 Vegetation and Forest Zone

The Study Area consists of the following general vegetative land cover types⁴:

Agricultural (54% of land area)

Forested (23% of land area)

Meadow or Brushland (non- agricultural) (1% of land area)

Wetland (0.4% of land area)

The Study Area lies in the Northern Hardwoods forest zone. The Northern Hardwoods best describes the potential vegetation of the Study Area prior to colonial settlement, and is typified by sugar maple (*Acer saccharum*), yellow birch (*Betula allegheniensis*), hemlock (*Tsuga canadensis*), and beech (*Fagus grandifolia*). These are important forests for humans providing fuel, building materials, and many food resources from pre-contact archaic times to the modern day. Historically, sugar maple has been used to make maple syrup and sugar. Beech produces an abundant crop of beechnuts every two to three years and oaks yield a mast crop of acorns every 4-10 years that attract large herds of white-tailed deer, and rafters of wild turkeys and other game to feed hunter-gatherer communities (Kricher and Morrison 1998:83, 441).

Vegetation in the Study Area is mostly farmland (active or fallow fields) and forest. Before colonial settlement, the Study Area was densely forested. In areas of recent residential development, the yards have manicured lawns and landscape plantings. Dense woods were noted especially in the western uplands around Sylvan Glen Creek.

4.4.2.2 Wetlands

Water in the form of precipitation reaches the ground and collects in natural basins where it is stored. These sites create special habitats called wetlands. Many plant and animal species are dependent on wetland environments to survive. Wetlands can also reduce flooding, play a role in storm water management and provide recreational and open space uses.

Wetlands account for approximately 0.4% of the land area within the Study Area. There are two New York State recognized wetlands but no federally regulated wetlands within the Study Area. The two wetlands in the Study Area are located in the upper northwest portion near Paris Road.

Figure 4.4-1 Major Soil Groups

This page is a placeholder. Because they are in an 11-by-17 tabloid format, maps are provided separately to facilitate printing and viewing.

⁴ USGS Land Use and Land Cover, 1992 Series

4.4.2.3 Topography

The Sauquoit Creek Valley dictates the topography in the Study Area. The lowest elevations are along the valley. Generally speaking, the elevation increases to the south continuing into the uplands and away from the Mohawk River. At the northern end of the Study Area the elevation is 568 feet (173 m) above mean sea level according to a USGS benchmark. At the southern end of the Study Area near Chadwicks, the elevation is 722 feet (220 m) above mean sea level. The valley floor is relatively narrow in the higher reaches and wider in the north. The topography also rises to the east and west. The highest elevations are the southwest corner of the Study Area on the slopes of Grange Hill, about 1300-1400 feet (396-427 m) above mean sea level. There are also two gorges west of Sauquoit Creek, one called The Glen and the other unnamed. There are other narrow creek valleys that drain into the Sauquoit Creek from the west and east uplands.

4.4.2.4 Plant life

Nineteen endangered plant species, 20 threatened plant species and two rare plant species may be found in Oneida County, according to the New York Heritage Program. The New York Heritage Program maintains the most comprehensive database on biodiversity in New York State. Plants with a New York State legal status of endangered are native species that are in imminent danger of extirpation (no longer occurring in wild state or no longer exhibiting traditional patterns of use) or extinction (no longer existing) in New York State. Threatened species are those species that are likely to become an endangered species in the foreseeable future. Rare plants are species that have 20 to 35 existing sites or 3,000 to 5,000 individuals in the State.

**Table 4.4-2 State Protected Plants
Oneida County**

Common Name	Scientific Name	State Protection Status
Awne Sedge	<i>Carex atherodes</i>	Endangered
Big Shellbark Hickory	<i>Carya laciniosa</i>	Threatened
Bird's-eye Primrose	<i>Primula mistassinica</i>	Threatened
Black Sedge	<i>Carex nigra</i>	Endangered
Blunt-lobe Grape Fern	<i>Botrychium oneidense</i>	Endangered
Broad-lipped Twayblade	<i>Listera convallarioides</i>	Endangered
Brown Bog Sedge	<i>Carex buxbaumii</i>	Threatened
Cat-tail Sedge	<i>Carex typhina</i>	Threatened
Clustered Sedge	<i>Carex cumulata</i>	Threatened
Common Moonwort	<i>Botrychium lunaria</i>	Endangered
Crawe's Sedge	<i>Carex crawei</i>	Threatened
Creeping Juniper	<i>Juniperus horizontalis</i>	Endangered
Creeping Sedge	<i>Carex chordorrhiza</i>	Threatened
Cypress-knee Sedge	<i>Carex decomposita</i>	Endangered
Davis' Sedge	<i>Carex davisii</i>	Threatened
Dragon's Mouth Orchid	<i>Arethusa bulbosa</i>	Threatened
False hop Sedge	<i>Carex lupuliformis</i>	Rare
Farwaell's Water-milfoil	<i>Myriophyllum farwellii</i>	Threatened
Frank's Sedge	<i>Carex frankii</i>	Endangered
Glomerate Sedge	<i>Carex aggregata</i>	Endangered

Common Name	Scientific Name	State Protection Status
Green Gentian	<i>Frasera caroliniensis</i>	Threatened
Handsome Sedge	<i>Carex formosa</i>	Threatened
Hooker's Orchid	<i>Platanthera hookeri</i>	Endangered
Houghton's Sedge	<i>Carex houghtoniana</i>	Threatened
Livid Sedge	<i>Carex livida</i>	Endangered
Many-head Sedge	<i>Carex sychnocephala</i>	Endangered
Mingan Moonwort	<i>Botrychium minganense</i>	Endangered
Mitchell's Sedge	<i>Carex mitchelliana</i>	Threatened
Narrow-leaved Sedge	<i>Carex amphibola</i>	Endangered
Nodding Pogonia	<i>Triphora trianthophora</i>	Endangered
Northern Wild Comfrey	<i>Cynoglossum virginianum</i>	Endangered
Pod Grass	<i>Scheuchzeria palustris</i>	Rare
Puttyroot	<i>Aplectrum hyemale</i>	Endangered
Rhodora	<i>Rhofofendrdon canadense</i>	Threatened
Sartwell's Sedge	<i>Carex sartwellii</i>	Threatened
Schweinitz' Sedge	<i>Carex schweinitzii</i>	Threatened
Soft Fox Sedge	<i>Carex conjuncta</i>	Endangered
Southern Twayblade	<i>Listera australis</i>	Endangered
Spreading Globeflower	<i>Trollius laxus</i>	Threatened
Troublesome Sedge	<i>Carex molesta</i>	Threatened
Yellow Mountain-saxifraga	<i>Saxifraga aizoides</i>	Threatened

Source: New York Natural Heritage Program

4.4.2.5 Wildlife

Two New York State classified endangered animal species and five threatened animal species may be found in Oneida County, according to the New York Heritage Program. These include the following:

- Peregrine Falcon (*Falco peregrinus*) – Endangered
- Short-eared owl (*Asio flammeus*) – Endangered
- Bald Eagle (*Haliaeetus leucocephalus*) – Threatened
- Henslow's Sparrow (*Ammodramus henslowii*) – Threatened
- Least Bittern (*Ixobrychus exilis*) – Threatened
- Northern Harrier (*Circus cyaneus*) – Threatened
- Pied-billed Grebe (*Podilymbus podiceps*) – Threatened

Approximately 85 species of breeding birds are known to be or are suspected of breeding in Oneida County. One of those, the loggerhead shrike, is classified as endangered in New York State.⁵

⁵ New York State Breeding Bird Atlas 2000-2005 via website, accessed 12/6/06 www.dec.state.ny.us,

4.4.3 Surface and Groundwater Inventory

Water from surface and ground water sources is used for drinking; bathing; agricultural, commercial and industrial uses; and fish and wildlife habitats. This valuable resource can be adversely affected by human activities. It is therefore important to identify the location of water resources and take steps to protect them from pollution and land use practices that have adverse impacts. The Town's Zoning Ordinance includes standards and guidelines for the Stream Corridor Overlay District, the Wetlands Overlay District and the Aquifer Overlay District, which can be used to protect water resources.

4.4.3.1 Surface Water

Watersheds

The Sauquoit Creek Watershed consists of 63 square miles of land area, most of which is located within Oneida County with a small portion in Herkimer County. The watershed encompasses portions of 14 municipalities. The upper (southern portion) of the watershed is primarily agricultural and residential in nature and the lower watershed is highly urbanized, containing dense residential and commercial development. The Sauquoit Creek Watershed includes the towns of Paris (43% of the basin's land area), New Hartford (31%), Kirkland (11%), Whitestown (5%) and Litchfield (3%), and the Village of New York Mills (2%). The remaining 5% of the watershed exists within portions of the towns of Bridgewater, Marshall and Frankfort, the City of Utica, and the villages of New Hartford, Claysville, Whitesboro and Yorkville.

The Sauquoit Creek basin has a history of localized and generalized flooding. In 2004, the Sauquoit Creek Inter-municipal Commission was established through an inter-municipal agreement between the towns of New Hartford and Whitestown and the villages of New Hartford, New York Mills, Whitesboro and Yorkville. The Commission is a legal entity having voluntary representation from its member communities that implements initiatives to better manage the watershed. One specific project that has been presented for approval under the agreement consists of engineering work to complete flood control/bank stabilization on Oneida Street in New Hartford.

Streams

The primary water body in the Study Area is Sauquoit Creek. This 21-mile creek originates in the Town of Paris and flows in a northerly direction through the Town of New Hartford and seven other municipalities before emptying into the Mohawk River. Smaller streams within the Study Area are tributaries to Sauquoit Creek including Glen Creek, Roberts Creek, and Palmer Creek. Several unnamed creeks are also tributaries to Sauquoit Creek. Sylvan Glen Creek is located in the northeastern portion of the Study Area but is not part of the Sauquoit Creek basin.

Water Bodies

There are three reservoirs located near Valley View Road and Pleasant Street. The reservoirs are fed by Sylvan Glen Creek. Up until 2001, the reservoirs were used to feed the Towns water system. Since 2001, no water has entered the public water system through the reservoirs. The reservoirs are treated with chlorine to prevent algae growth. Water quality testing at the reservoirs is no longer mandated, since they are not used in the public system.

Existing Water Quality

The Department of Environmental Conservation (DEC) classifies Sauquoit Creek as a Class C(T) waterway. The best use for Class C (T) surface water is fishing, particularly trout fishing. The water quality should be suitable for trout propagation and survival and primary and secondary contact recreation such as swimming. Other factors may limit its use for contact recreation purposes.

Most of the tributaries to the Sauquoit Creek within the Study Area are also classified as Class C waterways. An exception to this is the tributaries entering Sauquoit Creek in the vicinity of Washington Mills from Chapman Road south to Roberts Road. The tributaries in this area are identified as Class B. Generally, Class B waterways are considered to be cleaner and of better quality than Class C waterways. According to 6NYCRR Part 875, “the best usages of Class B waters are primary and secondary contact recreation and fishing. These waters shall be suitable for fish propagation and survival.. The table that follows provides the NYSDEC classifications and descriptions of the tributaries to Sauquoit Creek in the Study Area.

Table 4.4-3 Classification and Descriptions of Sauquoit Creek Tributaries

Waters Index Number	Name	Description	Map Ref. No.	Class	Standards
219-P 960b	Tributary of Sauquoit Creek	Pond located on Sauquoit Creek approximately 0.1 mile above mouth of The Glen.	2	C	C(I)
219-5, 6 and tribs.	Trib. of Sauquoit Creek	Enter Sauquoit Creek approximately 0.4 and 2.5 miles respectively above P 959.	2	C	C
219-7	Trib. of Sauquoit Creek	Enters Sauquoit Creek approximately near School 12, Washington Mills.	2	C	C
219-7-1	Subtributary of Sauquoit Creek	Enters at Washington Mills.	2	B	B
219-7-1-1, P 960a	Subtributaries of Sauquoit Creek		2	B	B
219-8, 9 and tribs.	Trib. of Sauquoit Creek	Enter Sauquoit Creek approximately 0.6 and 0.3 mile respectively north of Willowvale.	2	C	C
219-10 and tribs.	The Glen	Enters Sauquoit Creek at Willowvale.	2	C	C(I)
219-11, 12, 13, 14, 15, 16, 17, 19 and tribs.	Trib. of Sauquoit Creek		2	C	C
219-P 961-a, P 961b	Willowvale Bleachery Ponds	Located approximately 0.3 mile north of center of Chadwicks.	2	C	C
219-27a, 28, 29, 31, 32, 33 and tribs.	Tributaries of Sauquoit Creek		2	C	C(TS)

Source: 6NYCRR Part 875

Note 1: Class B Waters (6NYCRR Part 701): "The best usages of Class B waters are primary and secondary contact recreation and fishing. These waters shall be suitable for fish propagation and survival."

Note 2: Class C Waters (6NYCRR Part 701): "The best usage of Class C waters is fishing. These waters shall be suitable for fish propagation and survival. The water quality shall be suitable for primary and secondary contact recreation, although other factors may limit the use for these purposes."

Note 3: (I) indicates trout habitat

Note 4: (TS) indicates trout spawning habitat

Outside of the Sauquoit Creek watershed, a portion of the Study Area is drained by Starch Factory Creek in the City of Utica. Also part of the Mohawk River Basin, Starch Factory Creek is identified by the United States EPA as a Section 303.d Impaired Waterway. Based on this designation, special storm water SPDES requirements apply for developments within these drainage areas.

4.4.3.2 Groundwater

Expansion of residential subdivisions and commercial development in the southern portion of the Town of New Hartford has generally been limited to areas where public sewers and public water are available. Constraints on the use of groundwater in areas not served by public water are discussed in this section. The anticipated groundwater availability in unconsolidated and bedrock aquifers is also discussed relative to potential use as sources of public water or individual domestic water.

Regulations that can be used to assist in guiding Town officials in protection of water resources and to avoid water use conflicts are presented.

Public water mains are not currently present on the rural hills (uplands) at the southwest and southeast corners of the Town of New Hartford. Land use in these areas is predominantly agricultural with some heavily wooded steep stream channels. Single-family homes and farm homes are located along the roadways in this area. Large residential subdivisions or commercial facilities are present in areas that currently have public water availability.

Water Table

The water table is the top of the ground water layer and it marks the depth below which all the soil pore spaces and cracks in sediments and rocks are fully saturated with water. Sometimes there is an impermeable layer of rock above the main aquifer but below the surface that traps water percolating down to the main aquifer. This produces a perched water table or perched aquifer. The apparent water table is the depth at which if a pit is dug in soil, water seeps from the soil to form a shallow pool at the bottom.

The USDA soil surveys reflect tests for the water table to a depth of six feet. If no water is encountered within a depth of six feet, the water table type field is left blank. If water is encountered within six feet, the soil is said to have a seasonal high water table and the water table is described as apparent or perched. A high water table is a concern because it reduces the ability of soil to support loads and may delay plowing, planting and harvesting operations.

The Study Area consists primarily of high water table soil types. Soils that have a seasonal high water table are classified according to the depth to water table, kind of water table, and time of year when water table is highest. The table that follows provides this information for the 12 primary soil types in the Study Area.

Table 4.4-4 Water Table Elevations

Soil Type	Water Table (ft)	Water Table Type	Time of Year
Lima Silt Loam, 3 to 8 percent slopes	1.5 to 2	Perch	Mar - May
Amenia Silt Loam, 3 to 8 percent slopes	1.5 to 3	Perch	Nov - May
Cazenovia Silt Loam, 3 to 8 percent slopes	2 to 4	Perch	Mar - May
Lansing Silt Loam, 3 to 8 percent slopes	6	---	
Appleton Silt Loam, 3 to 8 percent slopes	0.5 to 1.5	Perch	Dec - May
Honeoye and Cazenovia Soils, 25 to 45 percent slopes	4 to 6	Perch	Mar - May
Howard Gravely Loam, 0 to 3 percent slopes	6	---	
Honeoye Silt Loam, 8 to 15 percent slopes	4 to 6	Perch	Mar - May
Lansing Silt Loam, 8 to 15 percent slopes	6	---	
Cazenovia Silt Loam, 8 to 15 percent slopes	2 to 4	Perch	Mar - May
Appleton Silt Loam, 0 to 3 percent slopes	0.5 to 1.5	Perch	Dec - May
Honeoye Silt Loam, 15 to 25 percent slopes	4 to 6	Perch	Mar - May

Source: USDA Natural Resources Conservation Service Soils Survey

Groundwater Availability - Unconsolidated Aquifers

The unconsolidated surficial geology within the New Hartford area is mapped as ground moraine glacial till on the hilltops and valley sides. The glacial till deposits are commonly referred to as hardpan, and consist of a dense mix of silt, sand and gravel in a clay matrix. Glacial till does not typically yield sufficient groundwater to be considered a potential source for public water systems. The till and other unconsolidated overburden in the uplands are generally thin (less than 40 feet) and have poor permeability. Well yields in the glacial till average 3 gallons per minute (gpm) (Halberg, 1963) and many of these wells are large diameter dug wells. The map of Surficial Geology shows kame and kame moraine deposits on the southern upland areas of the Township, but these deposits appear to be elevated above the water table. Groundwater in these kame deposits may not be connected to aquifers capable of long term safe yields that would provide reliable sources of water to public water wells or extensive domestic withdrawals.

Glaciofluvial and deltaic deposits are mapped as being present at the Sauquoit Creek valley floor overlain in some areas by fine-grained lacustrine deposits (lake bottom sediments) and recent alluvial sediments. The glaciofluvial deposits (predominately sand and gravel) are considered to be the most productive aquifer in the region and are utilized for public water supplies by some municipalities in the Oriskany and Sauquoit Creek Valleys (Halberg, others, 1962). The sand and gravel aquifers in the valley floor appear to have groundwater quality and quantity suitable for public and domestic water supplies.

Groundwater Availability - Bedrock Aquifers

There are six main types of bedrock formations in the Study Area. These are shown in the table below. The bedrock formation types are listed in order of occurrence from south to north. Bedrock in the Town of New Hartford is comprised of several formations, with the lower elevation valley areas underlain by the Utica and Pulaski Shale Formations. Rochester Shale, Guelph Dolostone, Vernon Shale, and Cobleskill Limestone underlay valley sides and hilltops in the Township (Dale, 1953). The Bedrock Geology Map shows the bedrock geology of the Study Area. High well yields are not typical in any of these bedrock formations with average well yields under 10 gpm (Halberg, 1963). Water quality is well known to be poor with elevated hardness, iron and sulfate. Of the bedrock formations in the Study Area, only the Pulaski Shale and the Clinton Group are listed as having water of good quality for domestic uses; however, it appears that water from these formations would require treatment prior to use for public water systems.

Table 4.4-5 Bedrock Formations

Period	Group	Formation	Components
Upper Ordovician	Lorraine, Trenton, and Black River.	Pulaski Shale	Sandstone, Siltstone, Shale
		Utica Shale	Shale, siltstone
Lower Silurian	Clinton Group	Rochester Shale	Shale
Upper Silurian	Lockport Group	Guelph Dolostone	Dolostone
	Akron Dolostone, Cobleskill Limestone, and Salina Group	Vernon Formation	Shale
		Cobleskill Limestone	Dolostone, Shale

Source: New York State Museum

Many residents with bedrock well water in New Hartford reportedly tolerate and consume water that likely exceeds recommended maximum contaminant levels (MCLs) rather than install treatment systems that require continued maintenance. Mr. Joseph Robertaccio, Public Health Engineer with the OCHD, and Mr. Kurt Schwenzfeier, Town of New Hartford Planning Department, are both aware of poor well water quality in the southern New Hartford area. Mr. Robertaccio was not aware of water shortages or water conflicts in this portion of the Town.

The Town of Paris (adjacent township south of New Hartford) conducted groundwater exploration activities in 1998 and 2002. Due to lack of suitable unconsolidated deposits in the uplands of the Town of Paris, bedrock aquifers were targeted for municipal water supplies. A high yielding (160 gpm) well was constructed in limestone bedrock (possibly the Manlius Limestone Formation) approximately 1.5 miles south of the Town of New Hartford. The groundwater encountered contained high levels of total hardness (965 mg/L) and sulfates (813 mg/L) and would require treatment prior to use as a public water supply. A second well was advanced in the vicinity of a spring and also exhibited water quality problems. The bedrock aquifers encountered in these wells appear to provide adequate water volumes for public water supplies but the poor water quality limits the aquifers from being considered cost-effective sources of water for small public water systems.

These bedrock formations are also located under the southern portion of the Town of New Hartford, indicating that similar results would be expected if bedrock aquifers were targeted for public water supplies.

Point Contamination Sources

There is a hazardous waste site located off of Valley View Road in the Sylvan Glen Creek Watershed. The site is known as the Scully Site, named after the former owner of SOS Septic Tank Service. In the 1960s and into the 1970s, liquid industrial waste from the General Electric Aerospace Plant on French Road was being dumped at the site. The industrial waste included organic solvents (mostly 1,1,1-trichloroethane and related breakdown products). Over time, the metal barrels containing these substances rusted and the contaminants seeped into the ground. Lockheed Martin acquired the GE Aerospace division and has assumed responsibility for the environmental clean-up of the site. Clean-up of the site began in 1988 with the removal of the barrels. Since then, tens of thousands of tons of soil have been removed from the site. In April 2008, a final excavation and restoration project was undertaken at the site. In December 2008, the clean-up and regrading of the site was completed. All that remains is the planting of trees and laying of grass seed in the Spring of 2009. Early test results from monitoring stations show that the site has been cleaned up to acceptable levels by DEC standards. Monitoring of the site will continue for two more years until the site will be eligible to be removed from the registered list of hazardous sites.⁶

Potential Non-Point Contaminant Sources

Contact with the NYSDEC and state and local health departments would be necessary to identify specific potential sources of contamination (reported spills, landfills, remedial sites, etc.) that may affect groundwater supplies in the Study Area. Potential non-point sources of contamination were evaluated and include the agricultural land use of the rural portions of the Town of New Hartford. Agricultural land use is a potential concern due to manure/fertilizer use and herbicide/pesticide use. Shallow water-table aquifers can be susceptible to nitrate loading and bacteriological contamination pending surface infiltration rates, local geochemistry, and recharge features. Road salt use on State Routes 8 and 12 and on secondary roads in the area is another concern to water supplies as elevated sodium and chloride can impact shallow aquifers or aquifers in fractured bedrock. Sodium ions also corrode steel well casings rapidly. Due to these potential nonpoint sources of contamination, well location, well construction, and depth of groundwater withdrawals should be considered when installing wells near agricultural lands or primary roads that receive road salt.

Groundwater Supply Well Regulations

Public water supply wells are heavily regulated by both the NYSDEC and NYSDOH. Experienced geologists are typically employed to coordinate municipal groundwater exploration studies and aquifer evaluation tasks. Non-public water supply wells (individual residential wells) are regulated by various agencies. NYSDEC Regulations (6NYCRR Part 653.5) states that a community water system is required when a subdivision consists of 50 lots or more, has over 199 residents, or if individual well yields average under 5 gpm or the groundwater is not potable. Individual groundwater wells can be installed for domestic use when these regulations do not apply. The NYSDEC also requires well drilling to be conducted by licensed well drillers and well completion records of domestic wells are to be filed with the NYSDEC. Well completion records include data on well depth, estimated yield, well construction, owner, and location.

⁶ New York State DEC, Lockheed Martin

The NYSDOH regulations that apply to non-public water wells are found in Part 5, Appendix 5-B: Standards for Water Wells (see Section 10 of this GEIS – Appendix). Appendix 5-B presents minimum standards for construction, renovation, development, and abandonment of water wells. Minimum separation distances to protect water wells from contamination are established and presented in Table 1 of Part 5, Appendix 5-B of the NYSDOH regulations. The NYSDOH also recommends that individual residential water supply wells be sampled for coliform bacteria and several inorganic parameters (iron, sodium, manganese, ph, hardness, alkalinity, nitrate, and turbidity) prior to homeowner use. The parameter list (NYSDOH Fact Sheet #3) also meets testing requirements set for HUD Mortgage home loans. The Oneida County Health Department (OCHD) also defers to the NYSDOH Appendix 5-B standards and the recommendations for domestic well water quality testing. NYSDOH Table 1 of Appendix 5-B and NYSDOH Fact Sheet #3 are provided in the Appendix of this document.

The NYSDOH regulations that apply to non-public water wells are found in Part 5, Appendix 5-B: Standards for Water Wells (see Section 10 of this GEIS – Appendix). Appendix 5-B presents minimum standards for construction, renovation, development, and abandonment of water wells. Minimum separation distances to protect water wells from contamination are established and presented in Table 1 of Part 5, Appendix 5-B of the NYSDOH regulations. The NYSDOH also recommends that individual residential water supply wells be sampled for coliform bacteria and several inorganic parameters (iron, sodium, manganese, ph, hardness, alkalinity, nitrate, and turbidity) prior to homeowner use. The parameter list (NYSDOH Fact Sheet #3) also meets testing requirements set for HUD Mortgage home loans. The Oneida County Health Department (OCHD) also defers to the NYSDOH Appendix 5-B standards and the recommendations for domestic well water quality testing. NYSDOH Table 1 (of Appendix 5-B) and NYSDOH Fact Sheet #3 are provided in the Appendix of this document.

NYSDOH Realty Subdivision Laws (Article 11, Title II-Realty Subdivisions: Water and Sewerage Service) applies to any tract of land divided into 5 or more lots. NYSDOH provides technical guidance on evaluating individual water supply systems in proposed realty subdivisions.ⁱ The guidance document recommends one representative test well for every 10 proposed lots in a subdivision to be drilled, yield tested, and sampled. Existing wells within 500 feet of the proposed subdivision can be used as test wells pending similar geologic conditions. Average sustained yields of more than 5 gpm are desired with allowances for wells with 2 to 5 gpm that are equipped with at least 400 gallons of supplemental storage. Yield testing should conform to NYSDOH Part 5 Appendix 5-B, which require 4 hours of stabilized drawdown at a constant discharge rate. Water quality testing should conform to NYSDOH individual residential water supply well parameters described above. Realty subdivision plans should clearly indicate that groundwater at the site is contaminated, if applicable. Treatment systems needed to meet drinking water standards should be described in detail.

Conclusions – Groundwater Source Constraints

The glaciofluvial aquifer along the Sauquoit Creek valley floor has the highest potential to yield adequate quantity and quality of water for municipal and domestic supplies in the GEIS Study Area. Public water mains and established water districts are currently available in these areas. Unconsolidated sediments on the valley sides and hilltops (where public water systems are not currently available) are generally thin and are not considered reliable sources of water for municipal or domestic purposes.

The bedrock in the Study Area generally does not appear to be capable of providing adequate water quality or quantity for municipal supplies. Bedrock aquifers are used for domestic supplies in southern New Hartford but the water quality is poor and many of these wells would likely require treatment to meet recommended drinking water standards. The yield of bedrock wells appears to be adequate for domestic uses; however, there is a potential that future large subdivisions or adjoining small subdivisions could deplete bedrock aquifers in a localized area. This potential overuse of bedrock water supplies may be a significant concern if lot sizes are small (less than 1 acre) causing a higher density of water users in a small area.

Potential non-point sources of contamination such as manure/fertilizer and road salt application areas may cause groundwater quality degradation.

4.4.3.3 Air Quality Analysis

The USEPA has established National Ambient Air Quality Standards (NAAQS) for six criteria pollutants. The six criteria pollutants are:

- Volatile Organic Compounds (VOCs)
- Carbon Monoxide (CO)
- Sulfur Dioxide (SO₂)
- Nitrogen Oxides (NO_x)
- Particulate Matter (PM).and
- Ozone

Ozone is further refined to a one-hour standard and an eight-hour standard. Particulate matter is divided into PM-10 for particulate matter less than 10 microns in aerodynamic diameter and PM-2.5 for particulate matter less than 2.5 microns in diameter.

NYSDEC and USEPA conduct continuous ambient air monitoring throughout their respective jurisdictions in order to evaluate regional air quality. Counties with ambient concentrations of a pollutant below the established NAAQS are considered to be in attainment for that pollutant. Counties that do not meet the NAAQS are considered to be non-attainment areas.

Oneida, Madison, and Herkimer Counties have never been listed as non-attainment areas for any criteria pollutant. Nearby ambient monitoring stations are located at Utica (PM-10 & PM-2.5), Camden (1-hr & 8-hr Ozone), Nick's Lake in Herkimer County (SO₂, PM-10, 1-hr & 8-hr Ozone), and Camp Georgetown in southwestern Madison County (SO₂, 1-hr & 8-hr Ozone).

A Generic Environmental Impact Statement for the Town of New Hartford Comprehensive Plan found that as of December 2005, the Town of New Hartford is an attainment area for all criteria air pollutants. The Comprehensive Plan recommends the promotion of the Town as a community of residential choice and the support of economic and job development efforts. These actions could generate additional automobile traffic which could in turn affect air quality. However, the Plan also recommends taking necessary measures to alleviate traffic congestion, which could be used to minimize potential effects to air quality. Comprehensive Plan recommendations that may affect the Town's air quality include:

- Direct commercial development to vacant and under-utilized parcels
- Promote the town as a diverse and welcoming community of residential choice
- Encourage the development of nodes of residential development in multiuse/mixed-use settings
- Participate in regional economic and job development efforts
- Engage a consultant to perform cluster analyses to identify business groups and types most suited for and ways to attract them to New Hartford

The adverse impacts of the above actions may be mitigated by:

- Taking necessary measures to alleviate traffic congestion in areas of the town
- Assessing the potential for improving access and usability of mass transit
- Implementing circulation and parking solutions in commercial areas
- Adopting access management standards for residential development
- Ensuring the adequate provision and maintenance of sidewalks
- Encouraging environmentally “green” building systems

4.4.4 Noise Analysis

Fisher Associates P.E., L.S., P.C. (Fisher Associates) has contacted multiple government agencies in the vicinity of the Town of New Hartford in an effort to obtain historic noise impact information that may be applicable to the Study Area. The following individuals and/or sources of information were contacted by Fisher Associates and yielded the information indicated:

- Kurt Schwenzfeier, Town of New Hartford Planning Department
Noise study for Route 840 (Judd Road) Connector Project
- Brian Whittaker, Town of Paris Zoning Officer
Mr. Whittaker indicated that no noise studies have been conducted in the Town of Paris. He stated that the Town did enact a basic noise ordinance in 2006.
- City of Utica website
Posted information on the Utica North-South Arterial Corridor Concept Study indicated that the concept phase of the project has recently been completed. The study noted that current noise levels would need to be measured, and noise modeling done with proposed alternatives to predict future noise levels and the need for including noise mitigation in the project.

Fisher also attempted to contact other local municipalities and the New York State Department of Transportation (NYSDOT), but failed to identify other useful information. These contacts included:

- Ms. Heather Pritchard, NYSDOT, Region 2, Regional Landscape/Environmental Manager.
- Mr. Harry Miller, for information pertaining to the Herkimer Oneida County Transportation Study.

4.4.5 Visual Resource Inventory

This chapter describes the scenic character of the project area and identifies areas of significant scenic value that should be considered in the planning process. Visual resources are an important factor in the location of new development within the project area and it is important that they be understood since many new homes are being built and carefully sited at the upper elevations of the project area to take advantage of the extended views over the rolling terrain.

Figure 4.4-2 Environmental Considerations

This page is a placeholder. Because they are in an 11-by-17 tabloid format, maps are provided separately to facilitate printing and viewing.

Figure 4.4-3 Surficial Geology

This page is a placeholder. Because they are in an 11-by-17 tabloid format, maps are provided separately to facilitate printing and viewing.

Figure 4.4-4 Bedrock Data

This page is a placeholder. Because they are in an 11-by-17 tabloid format, maps are provided separately to facilitate printing and viewing.

4.4.5.1 Scenic Quality Evaluation Methodology

The methodology used is a modification of the Federal Highway Administration (FHWA) visual resource inventory system, which is used by other federal agencies such as the US Bureau of Land Management (Manual H-8410-1) and is a commonly accepted standard method. The FHWA method is intended for much larger study areas with a wider variety of visual character types necessitating the modified methodology. Following is a description of the three basic steps that were undertaken to complete the Visual Resource Inventory:

Step 1 - Identification of Viewpoints

The consultant team drove all public roads in the Study Area looking for scenic views. Each viewpoint was put on a map with a direction arrow, an evaluation form was filled out and a photograph or series of photographs were taken.

Step 2 - Evaluating Scenic Quality

Step 3 - Determining Scenic Character Areas

Scenic areas are grouped based on their level of visibility and similar visual character.

4.4.5.2 Identification of Scenic Viewpoints

Thirty-three scenic viewpoints were selected by the project team and an evaluation form was filled out for each with the following ratings:

Scenic Quality – 1 to 5 with 5 being the highest

Scenic Category – panorama, overlook, distant view, enclosed and tunnel effect

Scenic Character – agriculture, natural, groomed, hamlet, urban and suburban

Scenic Elements

Features – barn/silo, house, church, structure, building

Vegetation – wooded edge, trees, woods, wetland, hedgerow

Landform – ridgeline, hills, rocs/cliff, valley, gorge

Water – lake, river, stream, waterfall, pond

Scenic Composition – fore/middle/back, framed, mystery, texture, vista

Exposure (angle of the view) and direction of the center of the view

Views were selected by the consulting team based on a number of factors such as distance, variation, and whether there were distinctive features. All viewpoints are from publicly accessible roads.

It is important to note that these are *viewpoints* that were inventoried. A viewpoint is the point where a viewer is at rather than where one is viewing. The view itself is in front of the viewpoint. Later in this report, scenic *areas* will be developed and categorized. The following table lists all viewpoints and the associated ratings:

Table 4.4-6 Scenic Viewpoints

<i>Point No.</i>	<i>Location</i>	<i>Quality</i>	<i>Category</i>	<i>Character</i>	<i>Elements</i>	<i>Composition</i>	<i>Angle</i>	<i>Direction of View</i>	<i>Notes</i>
1	Upper Sangertown Sq.	2	panorama	urban	woods, hills, house	back, vista	120	S	Plaza in Foreground
2	Grange Hill Rd	5	overlook	agriculture	woods, valley, house	back-vista	90	NE	Extended view to Village
3	Neals Gulf Rd	5	distant	agriculture	house, woods	vista	90	NNE	stone fence
4	Red Hill Road	4	distant	agriculture	woods, hills	vista	90	SW	
5	Red Hill Road	3	distant	agriculture	woods	back, vista	90	E	rolling road
6	Snowden Hill Rd	4	distant	suburban	house	middle, texture	90	NE	cornfield
7	Snowden Hill Rd	4	distant	suburban	house, woods, ridge	back, vista	45	SW	new homes
8	Tibbits Rd	4	distant	suburban	house, valley	vista	45	E	view down road
9	Tibbits Rd	2	distant	suburban	ridgeline, house	vista	90	NE	
10	Tibbits & New Paris Rds	5	panorama	agriculture	agriculture, hills	back	120	NE	wide open view
11	Saquoit Valley Pkwy	2	enclosed	suburban	highway, valley	back, framed	180	W	both sides of road
12	Chapman Rd	3	distant	suburban	valley, house	back, mystery	30	W	down road
13	South Reservoir	3	overlook	groomed	lake	middle	30	E	Fence obscures view
14	Tilden Ave	3	distant	agriculture	ridgeline	back, vista	90	SE	
15	Tilden Ave	3	distant	agriculture	valley	back, vista	90	W	
16	Higby Rd	4	panorama	agriculture	ridgeline valley	back, vista	90	NW	down road
17	Higby Rd	3	distant	groomed	ridgeline, valley	back, framed	20	SW	between yards
18	Higby Rd	3	distant	suburban	valley, house	framed	20	NW	down road
19	Mallory Rd	4	distant	agriculture	ridgeline, valley	back, framed	45	SW	
20	Mallory Rd & Sessions	5	panorama	agriculture	ridgeline, valley, barn	back, vista	120	SW	
21	Sessions & Mohawk	4	distant	agriculture	hills, valley, house	back, vista	90	SW	
22	Sessions Rd.	4	overlook	agriculture	valley	back	90	SW	across valley
23	Roberts Rd	3	enclosed	agriculture	ridgeline, house	middle, vista	45	ENE	
24	Roberts Rd	3	distant	agriculture	ridgeline, valley	back	90	SW	
25	Roberts Rd	4	panorama	agriculture	ridgeline, valley	back	120	SW	
26	Roberts Rd	4	panorama	agriculture	edge, ridgeline, valley	back, vista	120	SW	
27	Loughlin Rd	5	panorama	agriculture	barn, ridgeline, valley	back	120	NW	wide open view
28	Stream Along Elm	3	enclosed	natural	stream	fore, framed	20	SE	
29	Grange Hill Rd	3	tunnel effect	agriculture	ridgeline	back, framed	45	ENE	down road
30	Mohawk Rd.	4	panorama	groomed	ridgeline, valley	back, vista	90	W	
31	Upper Sessions Rd,	4	distant	agriculture	ridgeline	framed	90	SW	
32	Rte 5 West of S.T. Mall	3	overlook	urban	ridgeline, valley, house	back	90	S	
33	Kohl's at the Orchard	1	panorama	suburban	ridgeline, valley	back, vista	120	S	commercial in foreground
	Mean	3.52							

Scenic Viewpoint Photos



Viewpoint #1 – Kohl's at Orchard Plaza Looking South (not used in the Viewshed Analysis Mapping)



Viewpoint #2– Grange Hill Road Looking Northeast



Viewpoint #3– Neals Gulf Road Looking North,



Viewpoint #4 – Red Hill Road Looking



Viewpoint #5 – Red Hill Road Looking East



Viewpoint #6 – Snowden Hill Road Looking Northeast



Viewpoint #7 – Snowden Hill Road Looking Southwest



Viewpoint #8 – Tibbit's Road Looking East



Viewpoint #9 – Tibbitts Road Looking Northeast



Viewpoint #10 – Tibbitts and New Paris Roads Looking Northeast



Viewpoint #11 – Sauquoit Valley Parkway Looking Southwest



Viewpoint #12– Chapman Road Looking West



Viewpoint #13 – South Reservoir Looking East



Viewpoint #14 – Tilden Avenue Looking Southeast



Viewpoint #15 – Tilden Avenue Looking West



Viewpoint #16 – Higby Road Looking Northwest



Viewpoint #17 – Higby Road Looking Southwest



Viewpoint #18 – Higby Road Looking Northwest



Viewpoint #19 – Mallory Road Looking Southwest



Viewpoint #20 – Mallory & Sessions Roads Looking Southwest



Viewpoint #21 – Sessions & Mohawk Roads Looking Southwest



Viewpoint #22– Sessions Road Looking Southwest



Viewpoint #23 – Roberts Road Looking East Northeast



Viewpoint #24 – Roberts Road Looking Southwest



Viewpoint #25 – Roberts Road Looking Southwest



Viewpoint #26 – Roberts Road Looking West



Viewpoint #27 – Louglin Road Looking Northwest (not used in Viewshed Mapping)



Viewpoint #28 – Stream along Elm Street Looking Southeast



Viewpoint #29 – Grange Hill Road Looking East Northeast



Viewpoint #30 – Mohawk Road Looking West



Viewpoint #31 – Upper Sessions Road Looking Southwest



Viewpoint #32 – NYS Route 5 west of Sangertown Mall Looking South (not used in Viewshed Mapping)



Viewpoint #33 – Kohl's at The Orchard Plaza Looking South (not used in Viewshed Mapping)

4.4.5.3 General Character of Scenic Views

The Study Area generally has a high level of scenic quality due to its rolling terrain and rural character. This fact has not gone un-noticed by developers, as there are areas where new homes are being built at the upper elevations, presumably to take advantage of the extended views. Of the viewpoints evaluated, the mean Scenic Quality rating was 3.52 on a scale of one through five with five being the highest. The ratings were performed by a NYS licensed Landscape Architect trained in visual resource analysis. In addition to the rolling topography, the high ratings are due in part to the variety of land development, which provide varied views. These views vary in content from working farmland with barns and silos, to wooded ridgelines, valleys and rolling roadways.

Of the 33 views, 19 were categorized as agricultural in character, eight as suburban, three as groomed (developed), two as urban and one was categorized as natural in character. Simply stated, the visual character is agricultural with some suburban development. The major visual features were found to be valleys. Eighteen viewpoints contained valleys as a major element, and 16 viewpoints contained ridgelines. Other major visual elements that were frequently listed included houses and hills. Together, the scenic character and scenic elements create a picture of a rolling, lightly developed, mixed, agricultural and natural visual quality in the project area.

4.4.5.4 Determining Scenic Areas

The viewpoints described above were used to determine scenic areas. To determine the scenic areas, GIS-based mapping software was used. Each viewpoint has a view angle or cone of vision that was added to the map. For example, if the view angle is 45 degrees, then a shaded area 45 degrees wide is projected from each viewpoint in the direction of the view. The shaded areas, or view angles, from each point are laid onto the map and where they overlap, the shading becomes darker. The computer software accounts for the terrain when shading the view angle since areas on the opposite side of a hill or in a valley may not be visible from a viewpoint even though they are in the view angle. Due to overlapping view angles, the more often an area is visible from different viewpoints, the darker it becomes on the Viewshed Analysis Map (Figure 4.4-5). The map then portrays the most visible areas.

4.4.5.5 Scenic Quality

Scenic quality is a measure of the visual appeal of a tract of land. Lands are given a rating of 1 through 5 (with 5 being the highest) based on the apparent scenic quality, which is determined using the following factors: landform, vegetation, water, color, adjacent scenery, scarcity, and cultural modification. The scenic quality rating for each point is shown on the Scenic Viewpoints table.

The process to map the Scenic Quality in the project area is similar to the process used to determine the scenic areas. Using a GIS-based software (ArcGIS – Spatial Analyst Tools), viewpoints on the map were given a view angle that is shaded and where view angles overlap, the shading becomes darker. The shading within each view angle varies in darkness based on the scenic quality rating assigned to each with the highest rated views shaded the darkest. Due to constraints with the software that allow only 16 points to be used, several viewpoints were eliminated. Points that have a similar view angle to another and points that look outside of the project area were carefully selected and eliminated to achieve a representative sample of points to run the scenic quality mapping. The resulting Scenic Quality Map (Figure 4.4-6) clearly shows that areas having the highest quality ratings are the most visible. The results are similar to the Viewshed Analysis Map with the slope west of the Sauquoit Valley being the darkest and having the highest scenic quality.

4.4.5.6 Scenic Character Areas

Scenic locations in the Study Area were grouped according to similarity in level of visibility and visual character. Seven (7) areas were determined to exist based on these criteria and are mapped on Figure 4.9-3. The Viewshed Analysis Map, Figure 4.9-1, portrays the Study Area with respect to viewpoint and direction of view, and is scaled according to whether the view is less viewed or most viewed. This was then further combined with a review of the visual character and visual elements as shown on the Scenic Viewpoints matrix, Table 4.9-1. The seven scenic character areas are described below:

Area A – This is the most visible Scenic Character Area within the GEIS Study Area as determined by the GIS software program. The only areas that are not highly visible are the creeks and valleys that drain into Sauquoit Creek. The area has steep slopes that face many of the viewpoints and residential properties across the Sauquoit Valley. Area A is predominately agricultural in character; residential properties do co-exist, however, on Snowden Hill, Red Hill and Grange Hill roads. The visual character as predominantly agricultural may be due in part to the steep slopes that make it difficult to construct housing developments.

Area B – This area consists of two separate but similar sections of land that are moderately visible and exist on either side of the Sauquoit Creek. They are each suburban in nature and visual character. Slopes in Area B are generally not as steep as in Area A, with a gradual uniform descent towards the Sauquoit Creek and valley. This allows for more residential development and is less visible than Area A.

Area C – This is a large area east of the Sauquoit Valley that is moderately visible particularly from viewpoints and homes across the valley on the west side. It is agricultural in character with some residential lots situated along the major roads, specifically Mohawk Street, Sessions Road, and Mallory Road. The moderate level of visibility as compared to Area A is due to the changes in elevation being not more than 250 feet, as opposed to Area A where the elevation change ranges from 750 amsl (above mean sea level) near Oxford Road to points near Grange Hill Road (southwest portion of Study Area) where the elevation is as high as 1350 amsl. Area C is ‘divided’ by Area F, which is proximate to (name of tributary) of Sauquoit Creek, where the visual character becomes influenced by a ridgeline that blocks this area from the remainder of the Study Area.

Area D – This is an area that has limited visibility due to the terrain situated around the area; points west of this area rise to approximately 850 amsl; points south consist of rolling hills where the predominant elevation of 900-1100 amsl is in and around Red Hill and Grange Hill Roads. It is mostly agricultural in nature and visual character.

Area E – This area is located at the northeast corner of the Study Area and is limited in its visibility from other areas due to it being opposite a large hill. It has a residential area in the north side off of Tilden Avenue. It also has some open space and some agricultural land giving it a mixed visual character overall.

Area F – This area divides Area C and is located along Roberts and Sessions Roads with limited visibility toward it due to terrain – a ridgeline blocks it from the rest of the Study area. It is agricultural in nature and character with some residential lots along the major roads.

Area G – This is an area along the Sauquoit Valley that has limited visibility to points east and west of it due to the low lying terrain. It is fairly well developed with the Hamlets of Chadwicks and Washington Mills, and the Sauquoit Valley Parkway (Route 8) that traverses north/south.

Figure 4.4-5 Viewshed Analysis

This page is a placeholder. Because they are in an 11-by-17 tabloid format, maps are provided separately to facilitate printing and viewing.

Figure 4.4-6 Scenic Quality

This page is a placeholder. Because they are in an 11-by-17 tabloid format, maps are provided separately to facilitate printing and viewing.

Figure 4.4-7 Scenic Character Area

This page is a placeholder. Because they are in an 11-by-17 tabloid format, maps are provided separately to facilitate printing and viewing.

4.4.6 Historical and Archeological Considerations

4.4.6.1 Introduction

Hartgen Archeological Associates, Inc. (HAA, Inc.) was contracted by peter j smith & company, inc. on behalf of the Town of New Hartford to conduct a Phase IA Literature Review and Archeological Sensitivity Assessment for the southern part of the Town of New Hartford. The Phase IA study is a planning document rather than a project-specific cultural resource management report since it supports the GEIS. The study was conducted according to guidelines for cultural resource surveys established by the New York Archaeological Council in 1994 and adopted and appended by the New York State Office of Parks, Recreation and Historic Preservation (OPRHP) in 2005.

Yankee emigrants from New England settled the Town of New Hartford soon after the Revolutionary War. Several archeological surveys have been conducted over the past 30 years within the Town, but very few archeological sites have been discovered. Through the 19th century, the southern half of the Town grew around agriculture and the water power supplied by the Sauquoit Creek, a stream which splits the Study Area into east and west halves. Today, the Study Area can be characterized by a moderately populated central core along New York Route 8 (NY 8) and Oneida Street and more rural settlement on the hillsides to the east and west.

NY 8 originally followed the route of Oneida Street, but within the past 40 years, NY 8 was rerouted on the new Sauquoit Valley Arterial, an elevated highway that parallels the old route. The historic settlement of the Town differs between the NY 8 corridor, the Village of New Hartford, and the uplands. There are three key geographic regions in the Study Area:

- Eastern Uplands;

- Western Uplands; and

- NY 8 corridor, including the hamlets of Washington Mills, Chadwicks, and Willowvale, and the southern part of the Village of New Hartford

The Study Area is a mix of commercial and moderately dense residential settlement in the Village and along NY 8 and rural settings in the uplands. There are some residential subdivisions south and east of the Village on former agricultural lands.

A visual survey of the Town found that there are several historic archeological sites evident on the surface, especially at roadside. Archeologically sensitive areas were identified as a part of this study based on historical map documentation and visual survey.

4.4.6.2 Environmental Background

Archeologists examine the environmental conditions of a project area to assess the potential for locating different types of archeological sites from different time periods. Environmental factors affect how people view and use the landscape and the world around them. Topographic features, the location and distribution of important and reliable bodies of water, the local flora and fauna, soil types and drainage, solar exposure, and bedrock geology all play a role in modern, historical, and precontact site selection. These characteristics are covered in detail in previous sections of the GEIS.

As indicated in the previous soils discussion in this report, there are over 50 different soil types in the Study Area. While there are alluvial soils in the Sauquoit Creek valley, most of the soil types consist of recent alluvium. The narrow valley floor and steep drop of the creek may have led to scouring conditions in some places rather than soil accretion.

A wider valley floor and floodplain is present at the north end of the Study Area in the Village of New Hartford. Both agriculture and industry flourished around the creek in this area. The Study Area is only about ten miles from the headwaters of the Susquehanna River Valley drainage, another major watershed and Native American transportation corridor.

The Study Area drains from the eastern and western uplands into Sauquoit Creek and then north into the Mohawk River at Utica. These drainages are usually narrow, but the dramatic fall supplied water power to the early settlers. Several large mills, which later converted to steam power on Sauquoit Creek, lasted into the 20th century. Other mills were established on some of the smaller creeks in the 19th century, although presumably none could compete into the 20th century. One mill in the northeastern corner of the Study Area probably owned by the Beckwiths, a local farm family tied to a few properties was found on the 1852 and 1858 maps. This corner of the Study Area drains directly into the Mohawk River northwest of the City of Utica. Another sawmill was noted on the 1858 map on Chapman Creek in the eastern uplands.

Modern Development and Landscape Alteration

Modern development has focused on the Village, the NY 8 corridor, and suburban Utica in the northeast corner of the Study Area. In the Village, 20th century development has filled out the street grid that was first developed in the 19th century. Historically, settlement continued to spread up NY 8, concentrating in the mill hamlets of Washington Mills, Willowvale, and Chadwicks. Also, there have been suburban housing developments, especially in the northeast corner near the reservoirs and along Higby Road. Today, some upland farmland is being subdivided for residential development and several “for sale” signs were noted during the site visit.

In areas of large-scale suburban development where there is little to no potential for deeply buried archeological deposits, such as the suburban housing in the northeast corner, archeological potential is considered low. However, along the NY 8 corridor, there is still a high potential for archeological sites, especially mill and industrial-related sites, in areas like parking lots and public parks. In these locations, sites are more likely to be buried beneath natural alluvial soils or fill used to raise the modern ground surface above the creek flood level. Some segments of the Sauquoit Creek have been altered for flood control.

4.4.6.3 Documentary Research

Previous Archeological Surveys

There are seven archeological surveys dating from 1981 to 2005 on file at OPRHP within the Study Area (Figure 4.4-8). In May 1981, the New York State Museum (NYSM) conducted a Phase I archeological investigation in anticipation of resurfacing and reconstruction of sections of Oneida Street, Chapman Road, and Kellogg Road in the hamlet of Washington Mills. The survey located no precontact or historic archeological sites but noted five historically significant structures. Two of these were schoolhouses on Chapman Road and Oneida Street. The other three were mid-19th century residences on Chapman Road, Kellogg Road and Oneida Street. The survey noted the visible disturbance and development on the surface related to the commercial development of Washington Mills, but concluded that historic and precontact archeological sites are preserved beneath minimal disturbances like parking lots and filled yards (NYSM 1981a).

The NYSM conducted another survey in 1981 for the demolition of the Oneida Street Bridge over the Sauquoit Creek between Chadwicks and Washington Mills in the former hamlet of Willowvale. The bridge was originally built as a railroad overpass in the 1930s. The bridge and embankments were found to have little archeological significance and the removal of the bridge benefited the surrounding historic structures by improving visibility. No further work was recommended for the bridge removal project (NYSM 1981b).

WAPORA, Inc. conducted a Phase I survey for a gas pipeline in 1990. The survey began in the east at an existing compressor station in the Town of Frankfort, Herkimer County, and continued southwesterly through the Study Area to an existing compressor station in the Town of Marshall, Oneida County, for a total length of 12.94 miles (20.7 km). A little over 1.5 miles (2.4 km) crossed through the southeast corner of the Study Area, intersecting Higby Road and Mallory Road and passing adjacent to the Temple Emmanuel Cemetery. Two historic farmstead sites were discovered during the survey. Site WP1 was located very close to the project area on Higby Road about one-half mile (0.8 km) east near the Higby Hills Country Club. The site was considered by the archeologists to be eligible for listing on the National Register, although no OPRHP determination of eligibility was found. Site WP2 was located nearly adjacent to the southern border of the Study Area on Mohawk Road. This site was another 19th century farmstead with foundation remains and an associated domestic sheet midden deposit. This site was also considered to be eligible for listing on the National Register but no official determination was found on file (WAPORA, Inc. 1990). These are typical types of sites that could be found throughout the rural reaches of the Study Area.

The Public Archaeology Facility (PAF) of the State University of New York at Binghamton conducted a Phase I archeological survey for a proposed manure storage pit on Elm Street in the hamlet of Chadwicks near the southern border of the Study Area. The survey covered about 1.5 acres (0.61 ha) and no sites were found. No further work was recommended (PAF 2000).

HAA, Inc. conducted a Phase I archeological survey for the replacement of the Bleachery Avenue Bridge over the Sauquoit Creek in the hamlet of Chadwicks in 2000. Four shovel test pits were excavated at the four corners of the bridge and no historic or precontact sites were encountered. The bridge is located on NY 8 in the former hamlet of Willowvale (HAA, Inc. 2000).

The most recent archeological survey was by Pratt and Pratt in 2005 for a large-scale water project on Higby, Mallory, Sessions and Roberts roads and Tilden Avenue and Mohawk Street. The survey covered nearly 11 miles (17.6 km) of water lines within the right-of-way of the abovementioned roads. Although no archeological sites were reported as a result of the survey, there were four areas where low-density sheet midden deposits, or a scatter of historic artifacts, were identified.

Reported Archeological Sites

While there were no previously documented sites within the Study Area, there was one historic site identified within one-half mile (0.8 km) in the Town of Paris. The WP-2 Site was located during the 1990 WAPORA survey. The site is on the west side of Mohawk Street in the Town of Paris adjacent to the south line of the Study Area. Although the presence of the site does not directly affect the Study Area, it gives a sense of what kind of archeological resources may be present in the Town of New Hartford, since the histories outside the village centers are similar. The WP-2 site is described as having a scatter of artifacts, probably associated with a 19th century farm.

4.4.6.4 Precontact Background

The first known inhabitants of New York entered the region from the south following the retreating Laurentian ice sheet approximately 12,000 years ago (Ritchie 1969:1-30). In archeological parlance, this culture is broadly referred to as the Paleo-Indians. Pollen studies indicate that the region that would become eastern New York was covered with a conifer forest interspersed with open meadows (Funk 1976:210-212). Paleo-Indian remains have been discovered in association with extinct animal species including megafauna, such as the Mastodont, indicating that they were partially dependent on large game for subsistence (Moeller 1996:61-62). This dependence was supplemented by food foraged from the wilderness. Hunting and gathering suggests that Paleo-Indians were nomadic and consequently population densities were relatively low and social organization was most likely based on small kin groups. There is an unpublished Paleo-Indian site in the Utica area, although there is little information available, according to Pratt and Pratt in their survey of the Higby Road water project (2005:12).

In the Northeast, the Paleo-Indian period was followed by a lengthy and varied Archaic period beginning c. 7000 B.C. and continuing to around 1000 B.C. As the ice age drew to a close, the climate in the Northeast began to warm causing a substantial species shift in both flora and fauna. During the Early Archaic period this change appears to have lowered human population densities, a fact attributed to the newly developing mixed coniferous and deciduous forest, which were initially unable to support the biomass of the earlier, well-developed Paleo ecosystem (Dincauze 1971:194-198, 1976; Tuck 1974:72-80; Ritchie and Funk 1973; Salwen 1975:43-70). A stable ecosystem of mixed coniferous and deciduous forests evolved by 6000 B.C. and consequently a rebound in population density (Funk 1976:230-234).

Archaic populations were hunter-gatherers dependent upon the seasonal availability of resources similar to the Paleo-Indians. In response to the seasonal round, individual kin groups often gathered in large communal groups for a portion of the year and dispersed at other times. Comparative studies show that, in general, people living in temperate forests, such as New York during the Archaic period, display a greater degree of seasonal aggregation and dispersal than people living in warmer climates (Walthall 1998; Kelly 1983). Specifically, Archaic populations probably congregated near lakes or valley bottoms during the spring and summer and spent late fall and winter in upland areas (Eisenburg 1978). There is evidence of this seasonality at hallmark sites of the time period, including the Brewerton and Lamoka Lake sites in central New York (Ritchie 1969).

The Late Archaic period, 4000 to 1500 B.C., and subsequent precontact periods are characterized by the introduction of stone and ceramic cooking vessels. Late Archaic cultures were also highly mobile and followed a seasonal round, following animals, such as white-tailed deer into the uplands in the fall and winter and returning to aggregation sites in the spring and summer. It is likely that there are isolated Late Archaic sites in the Study Area, especially near upland streams and wetlands. The relatively short time that soapstone vessels were used along with so-called "broad" projectile points has been labeled the Transitional period. This period spanned from 1500 to 1000 B.C. and marks a phase of broad cultural change in everything from subsistence and resources to settlement structure and ritual (Ritchie 1969:150-178). The last precontact period is the Woodland period, which dates from 1000 B.C. to A.D. 1600. Woodland period sites are marked by the presence of relatively fragile pottery, which is to say that the bodies of the ceramic vessels became thinner than their rarer, Late Archaic counterparts. The fragility of the vessels has been interpreted as a sign of decreased mobility and increase in sedentary habitation (Ritchie 1969:179-299). Sedentary lifestyles, in turn, are associated with the rise of horticulture. By the Middle Woodland period, A.D. 1000 to 1300, most New York groups seem to have practiced some degree of horticulture.

At the time of contact with Europeans, the area around New Hartford and most of Oneida County was settled by the Oneida and Mohawk Indians, a member of the Iroquois League of Six Nations, or Haudenosaunee. The Stockbridge and Munsee tribes of the Oneida Indians settled just south of New Hartford in Madison County. Treaties signed after the Revolutionary War isolated the Oneida and Mohawk as well as other Native American groups and ushered in the historic period of the Study Area.

It is likely that there are isolated sites in the uplands near streams and wetlands relating to hunting activities, especially dating to the Late Archaic period. Other larger seasonal sites may be located along the Sauquoit Creek valley floor. There are three precontact sites located north of the Study Area near Champion Road and Yahnundasis Lake. These sites had very few artifacts and were likely short-term occupation campsites.

4.4.6.5 Historic Background

Yankee emigrants made up the large part of the next wave of settlement in New Hartford. Local tradition holds that Jedediah Sanger was the first permanent settler in New Hartford. He settled in the current site of the Village and erected mills, a store and infrastructure necessary to foster growth in any central New York town in the 18th century. A State Education Department historical marker commemorates the settlement of Jedediah Sanger in 1789 on Genesee Street in the Village just north of the Study Area (Kessler 1998). Sanger bought 1,000 acres of the Coxe Patent in 1788 (Sloan 1977:169). It is likely that the majority of the next settlers bought land from Sanger's large estate.

Other early settlers seem to have concentrated on land south of the Village. The Kellogg's originally built a temporary home west of Washington Mills and then permanently settled near the junction of Oxford Road and Kellogg Road (Wager 1896:481). Some historians list Salmon Kellogg as the first settler in 1782 (Cookingham 1997:1). In the 1790s, other families came to settle in the vicinity of Chapman and Higby roads. Henry Blackstone settled a 500-acre farm east of Washington Mills, which was later occupied by his son Alfred (Wager 1896:482). The Gibbs and Tylers joined the Blackstones on the farm and settled their families. In 1791, Nehemiah Ensworth settled on another portion of the Blackstone farm with his brother Elihu and his family. Nehemiah's son, Ezra, later occupied this farm (Wager 1896:483). All of these families are noted on the 1852 and 1858 maps of the Town.

In 1800, the Seneca Turnpike was built connecting Utica with the Finger Lakes via New Hartford. This brought the Village some commercial success and allowed growth until 1825, when the Erie Canal opened for business and began usurping some of that transportation commerce (New Hartford 1970:9). The Town of New Hartford was incorporated from Whitestown in 1827.

While agriculture grew in the uplands, the Sauquoit Creek valley saw its growth in the mills that began to spread south from Sanger's original mills in the Village. By 1816, New Hartford may have been the site of the first cut nail factory and cotton mill in New York State (New Hartford 1970:9). The mills in Washington Mills, Willowvale, and Chadwicks began around the same time, but flourished in the Civil War period, when industrial demand rose to meet the needs of the military. The first mill at Chadwicks, or Chadwick's Mills, was established by Abner Brownell, John Chadwick, and Ira Todd in 1809 (Wager 1896:489). The Eagle Cotton Factory lasted at least into the 1850s. By the end of the 19th century, the Standard Silk Company and the Beckwith Leather Company were the main industries in the hamlet, both located east of the railroad tracks on Elm Street.

In Willowvale, foundry and machinery shops established by Rogers and Spencer burned in 1868 (Wager 1896:489). These were never rebuilt and later the site was incorporated into the Utica-Willowvale Bleachery Company, an outfit that made and supplied linens and sheets. The Bleachery replaced an earlier tannery on the site (Sloan 1977:169). Another historic facet of Willowvale is the Glen, a wooded gorge leading into the western uplands from the valley. This was a popular leisure spot in the early 20th century and later the Bleachery built a power dam and reservoir on the stream. The 1865 gazetteer for New York State reported 40 houses in all of the hamlet and a “factory for making cotton machinery” and foundry which employed 80 people (French 1865:465).

Isaac Mason founded the first mill in Washington Mills before 1840. Frederick Hollister purchased one of Mason’s first mills in 1840 (Wager 1896:488). The Huntley and Babcock hoe and fork factory was built around 1865. This lasted into the early 20th century, ending its years as the Utica Tool Company (Wager 1896:488; Edwards 2000:112). The A.T. Stewart Mills were built on the site of the Hollister mill after the former mill, then known as the New York Silk Company, burned c. 1860s. The Stewart Woolen Mill had several buildings on Kellogg Road and Oneida Street. The mill was closed in 1880 and the largest structure was torn down in 1905. The rest of the outbuildings were razed to make way for the Sauquoit Valley Arterial (NY 8) in 1968 (Edwards 2000:111).

By 1870, the Village of New Hartford was incorporated. The Utica to Binghamton division of the Delaware, Lackawanna and Watertown Railroad was constructed in the 1850s. By the end of the Civil War, waterpower on the creek had begun to dwindle and mills were converting to steam power (Wager 1896: 480). Wager also reports that the Town once had an iron industry after Zenas Gibbs discovered the ore on his farm. That industry declined and by 1896 it was completely abandoned (Wager 1896:484).

4.4.6.6 Historic Map Review

The earliest maps reviewed for the Study Area dated to the late 18th century. A series of maps was made during this period to chart the interior of New York State in anticipation of continuing settlement and transportation improvements. The three maps from this period range in date from 1779 to 1790. Through this period the approximate location of the Study Area covers parts of Bayard’s Patent, Cosby’s Manor, and by 1790, Coxe’s Patent. There were very few roads in the vicinity, except for an east-west route at the north end of the Study Area. This may be the path of Genesee Street, or present day NY 5, which became the Seneca Turnpike by 1800. One theme these maps clearly convey is the proximity of the Susquehanna River headwaters to the Mohawk Valley.

This area may have been a natural transportation corridor for Native Americans shuttling between the two major drainages. Despite its lack of detail, the 1829 Burr map should be included in this discussion of early New Hartford. The map notes the route of several modern-day roads in town including Higby, Mallory, and Roberts in the eastern uplands, Snowden Hill and Tibbitts in the western uplands, as well as Tilden Avenue, Higby Road, and the Utica Bridgewater Turnpike (old NY 8). The small star-shaped symbols indicate either settlements or mills. A small triangular piece of the Town of Kirkland was annexed in 1834.

Besides the modern cul-de-sacs and residential drives common in the northeast corner of the Study Area today, the road layout of New Hartford was nearly complete by 1852. The Rogerson and Murphy map indicates several mills in the central valley, including the Eagle Mills in Chadwicks, the Rogers and Spencer foundry and machine shops in Willowvale, and steam mills in Washington Mills. Much of the upland area is dotted with farms. The settlement pattern would not change much over the coming century. Portions of the Town in the north and east were annexed by Utica.

Figure 4.4-8 Locations of Previous Archeological Surveys

This page is a placeholder. Because they are in an 11-by-17 tabloid format, maps are provided separately to facilitate printing and viewing.

By 1858, population had increased in the valley, probably in response to the growing industrial base. Also, the French map indicates some small secondary communities in the uplands where settlement had increased at crossroads and around upland industry. One example is the intersection of Mohawk Street and Roberts Road where four new houses appear on the landscape. The same phenomenon is indicated around the Beckwith mill in the northeast corner of the Study Area and around the school at Gulf Road (also known as Dean's Gulf Road) and Grange Hill Road in the southwest corner. The 1858 French map also noted a new industry in Willowvale, the Willowvale Works.

This is also the first map to note the small upland industries, including iron mines and stone quarries. The French map also offers the first detailed glimpse of Washington Mills. In 1858, three series of mills are shown on the Sauquoit Creek and Chapman Creek. In the south, a small saw mill is shown on a headrace east of the main creek channel. This was located near the intersection of the turnpike with Mallory Road. Between Mallory Road and Kellogg Road were several wagon shops and blacksmiths. The Washington Steam Mills owned by C.S. Wilson were located on the south side of Kellogg Road on either side of Sauquoit Creek. The last set of mills was the Oneida Woolen Mills complex on Oneida Street near the junction of Chapman Creek and Sauquoit Creek. Several mill buildings and offices were located on either side of the road and on either side of the smaller creek. The intersection of Oneida Street and Kellogg Road was the site of a public square located in front of the Washington Mills Hotel, now the site of a McDonald's fast-food restaurant. A few prominent names are attached to multiple properties in the hamlet, including P.S. Eastman, L.F. Ryckman, and W.H. Chapman.

The 1874 Beers map was the first to indicate the Delaware, Lackawanna and Western railroad in the creek valley as well as the New York and Oswego Midland railroad north of the Study Area. Settlement in the uplands did not change much after the Civil War but in the valley the settlement seemed to be denser. The 1874 map had insets of the hamlets of Willowvale and Washington Mills. The 1874 Washington Mills inset showed some changes to the mill systems that had been in place since at least 1858, but little change overall besides some increase in population. South of the A. T. Stewart Mills, where the C.S. Wilson Washington Steam Mills were located, the Sauquoit Creek was dammed and a reservoir was created. The same was true for the Huntley and Babcock Hoe and Fork Factory. The Delaware, Lackawanna, and Western (DLW) railroad made a stop at the Stewart mills and a siding leads from one of the buildings to the rail line. In Willowvale, the main difference was the addition of the DLW railroad east of the hamlet. The foundry and machine shops were labeled Rogers and Butler on the 1874 map.

The 1895 and 1898 USGS quadrangles show little detail as far as landowners are concerned. One notable change evident on the new maps was the construction of South Reservoir on Pleasant Street and Savage Reservoir on Graffenburg Road in the northeast corner of the Study Area. The 1907 Century Map Company maps of Chadwicks, Willowvale, and Washington Mills showed the industrial character of those hamlets near the end of the industrial period in New Hartford. The mills still occupied the same footprints in nearly all cases, but the use of steam power had obviated the need for reservoirs in Washington Mills.

4.4.6.7 Site Visit and Visual Survey

A site visit was conducted on December 27-29, 2006. There was very little snow obscuring the ground surface and visibility was very good in wooded areas. A general overview of each region in the Study Area is given followed by details of relevant locations. The location of map-documented structures was compared with current conditions to identify archeologically sensitive areas.

Eastern Uplands

Rolling hills and agricultural fields characterize the eastern uplands region of the Study Area. Nearly every historic house can be tied to a 19th or early 20th century farmstead. There are also several recent subdivisions and other areas, especially along Higby Road, where development can be traced to the post-World War II boom.

Sessions, Mallory, and Roberts Roads, Tilden Avenue, and Mohawk Street all had similar characteristics and historic features (Photos 1-3). The landscape was typically gently rolling and sloped to the west towards the valley. Historic features were limited to 19th century farms and houses. No archeological sites were noted in the site visit on these roads. New residential developments were noted on Mohawk Street and Tilden Avenue. A new school has been built on Chapman Road. The eastern uplands area was also the site of the Higby Road water improvement system, which was the subject of a Phase I archeological survey in 2005 (Pratt and Pratt 2005). Areas of cut-and-fill were mostly limited to recent residential development such as Heron Landing on Mohawk Street near the intersection with Higby Road (Photo 4).

Valley View Road and Tilden Avenue were steeply sloped and very few historic structures were observed. The only feature of note was the Pittman Cemetery on Tilden Avenue and the Beckwith Cemetery on Pleasant Street; both are discussed later in this report. From some roads there were expansive views across the valley to the western uplands. As a result of the windshield survey and a comparison of map-documented structures with existing conditions, several archeological contexts were identified.

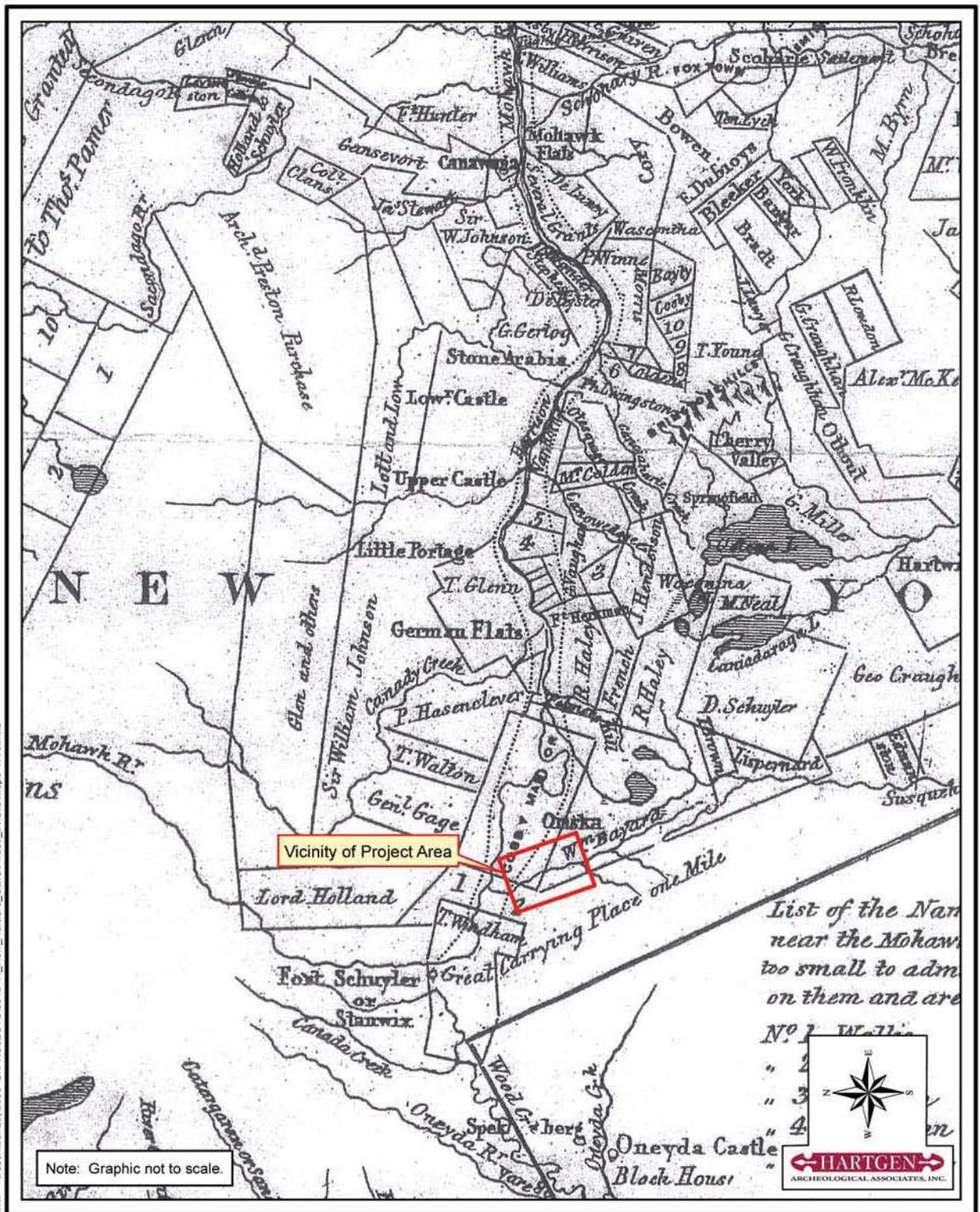
Western Uplands

Farmsteads and dramatic ravines dominate the west side of the Study Area, especially The Glen, which drains into Sauquoit Creek opposite the old Bleachery at Willowvale (Photo 5). There was less modern residential development in the western uplands, perhaps because of the steeper terrain. The most prominent residential subdivision is on the north side of Tibbitts Road near the intersection with Oxford Road. Opposite this development is a parcel in the preliminary stages of a similar development.

Historic features were limited generally to large late 19th century farms and a few houses. No archeological sites were identified, although historic maps suggest that there may be contexts associated with New Hartford's short-lived iron industry. Oxford Road is one of the older roads in town and is noted in local documentation of the earliest settlers. Today, the route is crowded with historic and modern houses and farms (Photos 6-9).

Figure 4.4 10 Chorographical Map of the Northern Department of North America - 1780

Phase IA Archeological Investigation, New Hartford Generic Environmental Impact Statements, Oneida Co.

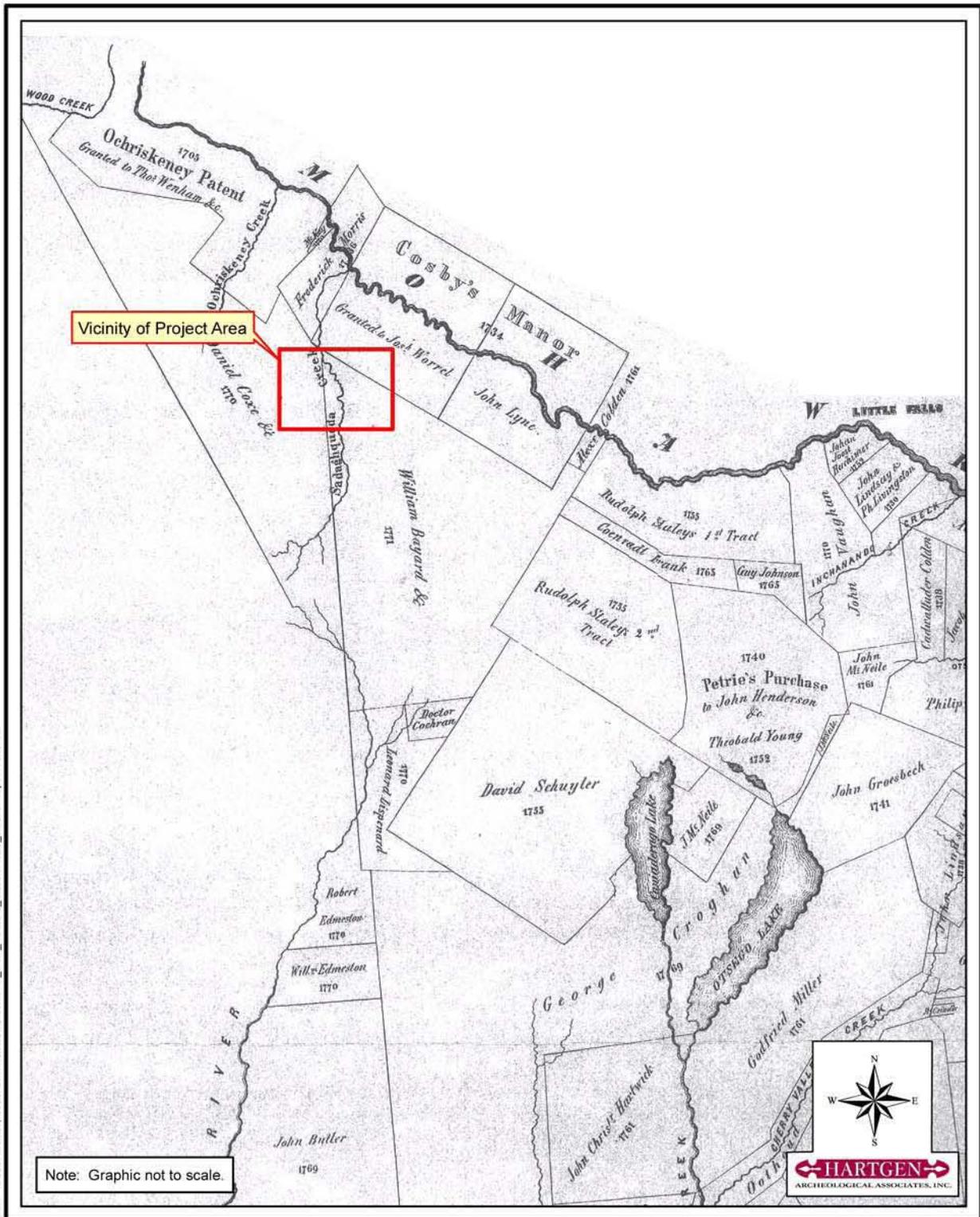


December 29, 2006 S:\PROJECTS\0912-11_New_Hartford_GEIS\Phase_I\GIS\Map5-1779.mxd

Chorographical Map of the Northern Department of North America - 1780

Figure 4.4-11 Headwaters of Susquehanna and Delaware Rivers – 1790

Phase IA Archeological Investigation, New Hartford Generic Environmental Impact Statements, Oneida Co.

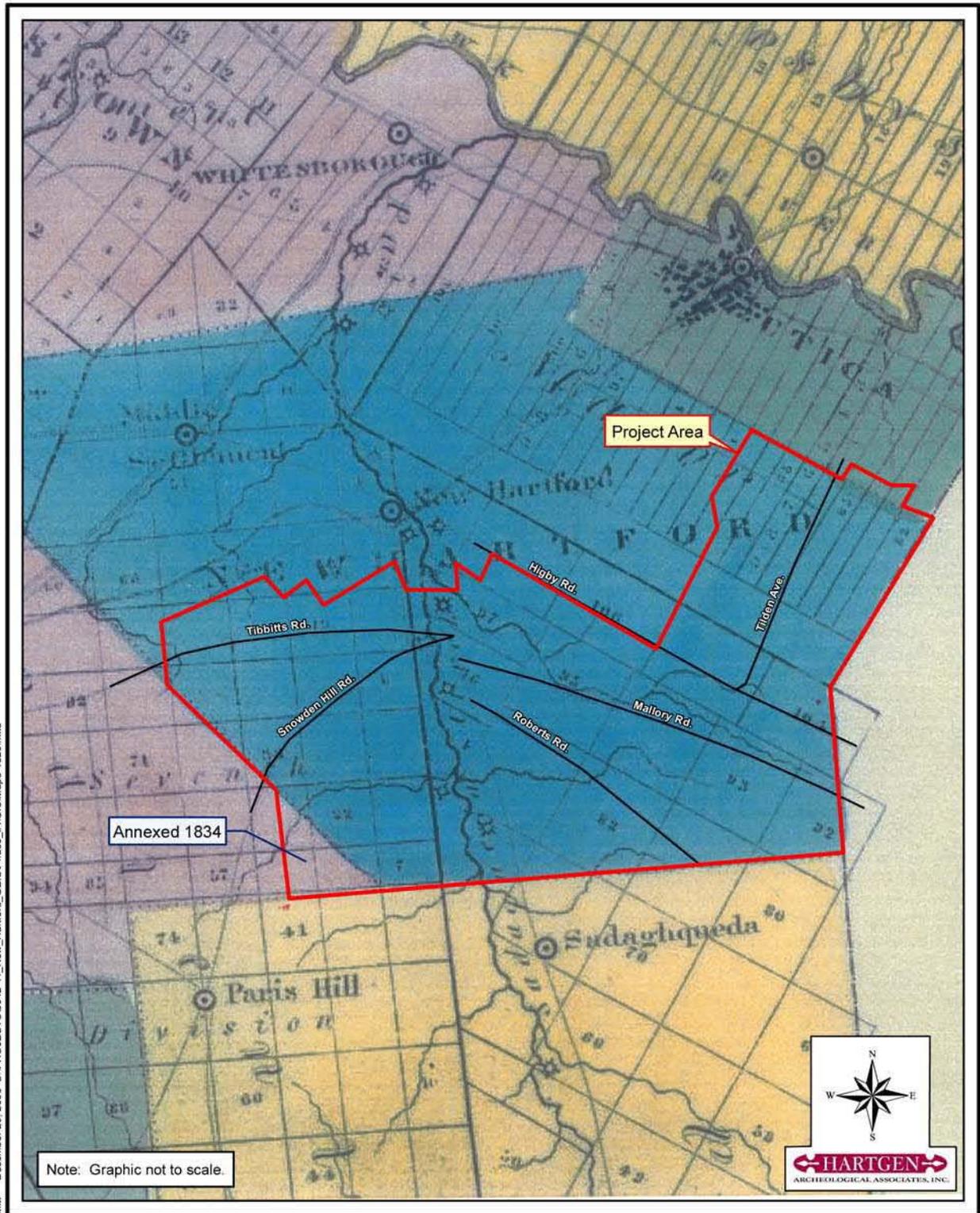


MM December 29, 2006 S:\PROJECTS\3912-11_New_Hartford_GEIS\Phase_IA\GIS\Map7-1790.mxd

Headwaters of Susquehanna and Delaware Rivers - 1790

Figure 4.4-12 Burr Map of Oneida County – 1829

Phase IA Archeological Investigation, New Hartford Generic Environmental Impact Statements, Oneida Co.



Burr Map of Oneida County - 1829

Figure 4.4-9 Rogerson and Murphy Map – 1852

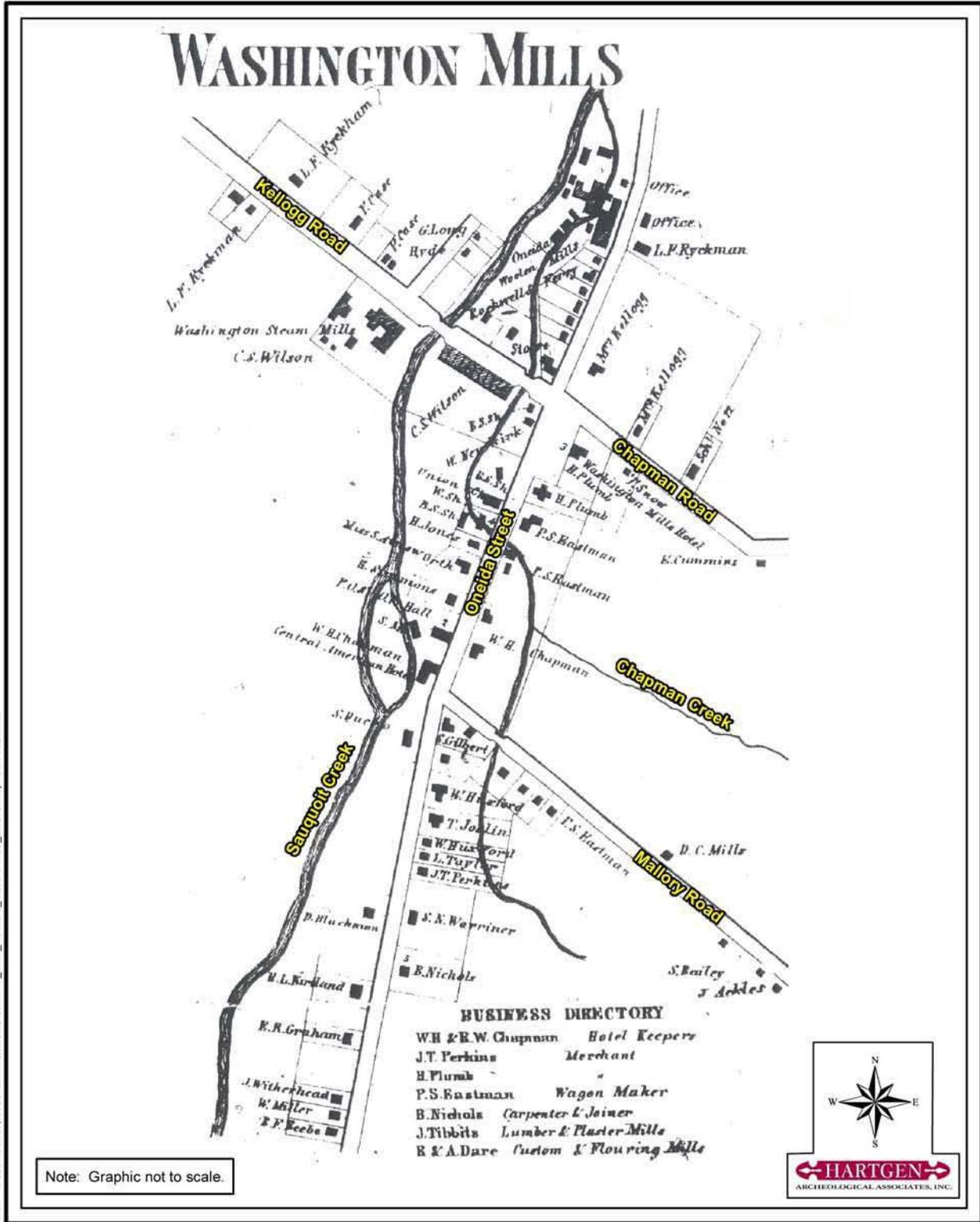
This page is a placeholder. Because they are in an 11-by-17 tabloid format, maps are provided separately to facilitate printing and viewing.

Figure 4.4-10 French Map – 1858

This page is a placeholder. Because they are in an 11-by-17 tabloid format, maps are provided separately to facilitate printing and viewing.

Figure 4.4-15 French Map – 1858 Washington Mills Inset

Phase IA Archeological Investigation, New Hartford Generic Environmental Impact Statements, Oneida Co.



MM December 29, 2006 S:\PROJECTS\3912-11_New_Hartford_GEIS\Phase_I\GIS\Map10b-1858.mxd

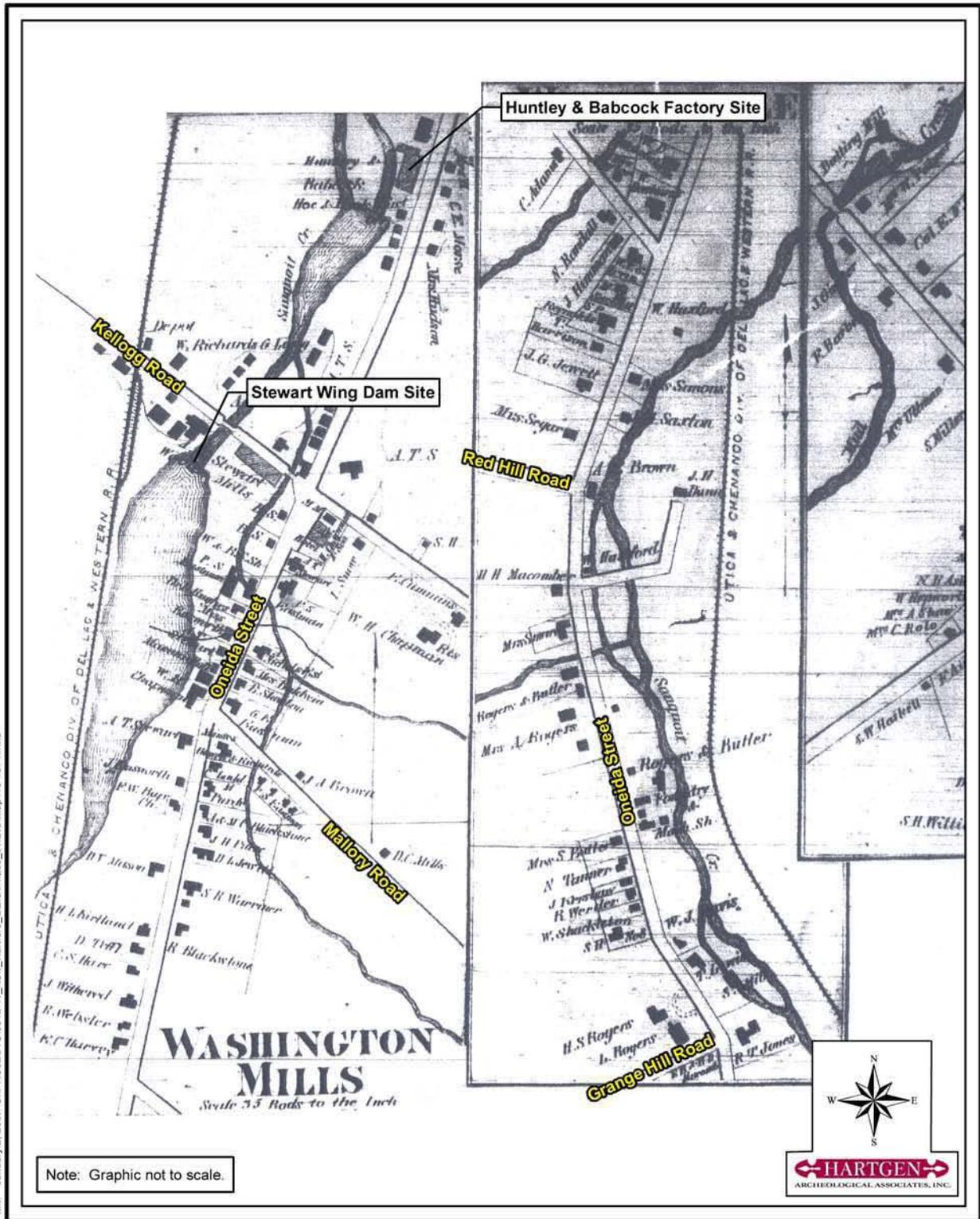
**French Map - 1858
Washington Mills Inset**

Figure 4.4-12 Beers Map – 1874

This page is a placeholder. Because they are in an 11-by-17 tabloid format, maps are provided separately to facilitate printing and viewing.

Figure 4.4-17 Beers Map – 1874 Washington Mills and Willowvale Inset

Phase IA Archeological Investigation, New Hartford Generic Environmental Impact Statements, Oneida Co.



MM January 2, 2007 S:\PROJECTS\3912-11_New_Hartford_GEIS\Phase_I\GIS\Map11c-1874.mxd

**Beers Map - 1874
Washington Mills and Willowvale Inset**

Figure 4.4-14 Century Map Company – 1907

This page is a placeholder. Because they are in an 11-by-17 tabloid format, maps are provided separately to facilitate printing and viewing.

NY 8 Corridor

Much of the center of Washington Mills bears little obvious historic character (Photos 10-11). The landscape is dominated by modern commercial development, including gasoline service stations and fast-food restaurants. The A.T. Stewart mills noted on the 1874 map were the main documented structures in the Town. Today, only three small houses survive from this group of buildings. These houses are on a cul-de-sac that has become isolated by NY 8 and adjacent commercial developments (Photo 12). South of the Kellogg Road Bridge is a row of large boulders running at an angle across the bottom of Sauquoit Creek. This is a municipal sewer line near the site of a wing dam that brought water into the wheelhouse of the Stewart Mills to generate power (Photo 13). Floods and flood control projects have removed much of the dam. Chapman Creek north of Kellogg Road has been rerouted to the west around a veterinarian clinic. Much of Chapman Creek and Sauquoit Creek north of Kellogg Road are lined with boulders typical of modern flood control projects (Photo 14). Remains of the Stewart mill complex and related mills likely survive under the adjacent gasoline station and the NY 8 right-of-way.

There is a stone-lined channel or headrace behind the pizzeria and Chinese restaurant on the west side of Oneida Street (Photos 15-16). This is the last stretch of Chapman Creek before it meets Sauquoit Creek. There are two concrete falls near Kellogg Road, but their origin is uncertain. Another large map-documented mill structure existed on the west side of Oneida Street where the stream passed under the road. There is no evidence of the structure on the surface, but remains may exist beneath the adjacent parking lots. Opposite this location, the P.S. Eastman house still stands, although it has been enveloped in a modern church structure (Photo 17). South of these locations, the historic character of the hamlet returns and historic homes dominate the landscape.

Nineteenth-century Willowvale has been absorbed into Chadwicks on the modern landscape, but the historic center still retains its historic character, including the Bleachery complex, now occupied by Mohawk Containers (Photos 18-19). Many of the original structures built around the turn of the century survive and have been updated (Photos 20-22). The large parking lots around the existing facilities may hold evidence of earlier mill structures. The earlier mill complex was located south of Bleachery Avenue between the creek and Oneida Street. Several of these buildings still stand and other structural remains may exist below parking lots at the volunteer fire company and the commercial development south of Bleachery Avenue. A stone-lined feeder stream originating in The Glen flows on the west side of Oneida Street (Photo 23). The Glen is now private property and access was not granted at the time of the site visit to confirm the historically documented reservoir and dam built for the Bleachery.

The Eagle Mills complex and later the Standard Silk Company and Beckwith Leather Company were the landmarks of the hamlet of Chadwicks at the extreme south end of the Study Area. Other than the absence of both documented mills in the hamlet much of Chadwicks retains historic character. There is little commercial development in this part of the Study Area and NY 8 is located on the opposite side of the creek well away from the hamlet. There were fieldstone walls observed in the creek bed, potentially remnants of a tailrace for the Eagle Mills complex (Photo 24). Worker houses line the south side of Elm Street (Photo 25). Remnants of the Standard Silk and Beckwith mills may still remain under the athletic fields southeast of the old train station.

4.4.6.8 Archeological Contexts and Sensitivity

Archeological contexts were confirmed through visual observations or by comparison of historical maps with current conditions. These resources range from 19th century domestic house sites with outbuildings and barns to quarries and mines to 19th century industrial mills along Sauquoit Creek. In order to determine the archeological sensitivity of the Study Area, the assessment has been divided into general categories of the various contexts based on the environmental character of the setting, historic documentation, and results of the site visit.

Precontact Archeological Sites

There are no precontact archeological sites listed in the site file search for the Town of New Hartford and within a one-half mile radius of the Town. Historical and some anecdotal accounts of the early settlement of the Town by New Englanders state that Native Americans, mostly the Iroquois, still resided in the Town through the end of the 18th century, albeit in dwindling numbers. Parker's archeological history of New York State listed 39 sites in Oneida County, mostly burial sites and villages, but there were none located in the Town. Two were situated in the adjacent Town of Kirkland and several of the sites were located along the Mohawk River Valley, located about one mile north. As noted above, there were three small precontact sites north of the Study Area around Campion Road and Yahnundahsis Lake. The Study Area was certainly within the range for hunting and gathering plant resources of any number of large Mohawk River Valley Native American settlements.

Generally speaking, there is variable sensitivity for precontact archeological sites in the Study Area. In areas of previous disturbance, the potential for finding these sites is low. This pertains especially to the large residential developments where landscape disturbance is widespread and the topsoil is relatively shallow, leading to maximum disturbance of possible archeological deposits. The highest sensitivity for precontact sites is along the Sauquoit Creek valley. This corridor would have been an important travel route for Native Americans from the Mohawk River Valley and the Great Lakes to the north and west to access the Susquehanna River Valley to the south. Between the two drainages, the hills have veins of chert that was used for making stone tools. Also, areas of alluvial soils may have preserved buried sites in the valley floor, depending on the character of flooding in any given portion of the valley.

In the upland areas, sensitivity is moderate for precontact archeological sites. Previous archeological surveys in similar areas routinely turn up small precontact sites, known in archeological parlance as upland lithic scatters. These are small, short-term encampments that may be located in places distant from large bodies of water and transportation routes. Typically, a site like this consists of a few chert flakes, which are the by-product of stone tool manufacture or maintenance, accompanied by fire-cracked rocks, which indicate fires for cooking or heating. Recently, upland lithic scatters have become a common topic of archeological interest in the Northeast, as archeologists and cultural resource managers struggle with the cultural and scientific importance of these sites. The three sites near Yahnundahsis Lake are likely upland lithic scatters. Upland lithic scatters are commonly associated with Late Archaic people, who followed a seasonal round of resource procurement and had ranged into the uplands for winter hunting.

Precontact sites could be identified through hand-excavation of shovel test pits or by surface collection in plowed fields. The shovel test pit is the most common unit of archeological exploration in cultural resource surveys. These are employed in the first phase of investigation and routinely they are placed every 50 feet for a systematic sample of a project area. The soils are screened to recover artifacts. Alternatively, surface collection of plowed fields is a reliable method of detecting precontact sites, especially in a setting like the Study Area where most of the uplands have been already plowed. In this alternative, archeologists walk plowed transects, usually about 10 to 20 feet wide and spaced every 50 feet to mark artifacts in the exposed soil. A map is made of the artifacts to delineate the limits of the archeological sites. Local residents may also know of precontact archeological sites and they are often a valuable resource leading to their discovery.

Overall, the Study Area is moderately sensitive for precontact archeological sites. This sensitivity is higher on the valley floor where disturbance is minimal. Sites also are more likely to be found around the small streams and wetlands in the upland areas. One especially sensitive location is a plowed field bordered on the north by a stream and Mallory Road, south by Sessions Road, and west by Oneida Street. The field features a terrace overlooking the Sauquoit Creek to the west and a wide flood plain. This is a likely site for longer-term encampments featuring more specialized activities such as nut or game processing, fishing, or a base camp.

Eighteenth-Century Domestic Sites

The Town was first settled by New England emigrants in the 1780s, according to historical texts. Much of this early settlement, especially concerning Jedediah Sanger, considered to be the founding father of New Hartford, is centered on the Village. Oxford Road and Higby Road are also mentioned in accounts of early settlers. By identifying names of early settlers on the 19th century maps, we gain a sense of where the 18th century settlements may be located. Chief among these is the Kellogg settlers on Oxford Road near Kellogg Road west of Washington Mills. The 19th century maps also note descendants of Blackstone, Wadsworth, Ensworth, and Tyler along Chapman and Higby Roads in the eastern uplands. There are few founding families in the western uplands.

Eighteenth century domestic contexts may be part of a larger 19th and 20th century site in some areas where occupation was continuous through the centuries. In some cases, these early settlements began with a small rudimentary cabin where the pioneer family lived until a permanent house could be built. These sites are not always coincident with the permanent house but may be located in the middle of a field, forgotten after centuries of cultivation. There are no records of 18th century mills in the Study Area; most of these early mills were located on Sauquoit Creek in the northern end of the Village.

Nineteenth-Century Domestic Sites

Outside of the Sauquoit Creek valley, the history of New Hartford is closely associated with agriculture. Four archeological sites associated with documented settlements on historical maps were identified, but there are likely other archeological contexts that were not readily visible. All of these sites are in the eastern uplands. Table 4.4-7 lists the four sites located in the GEIS Study Area.

There were three historic archeological sites located on Higby Road. Most of this road was marked by post-World War II development with some new development at Higby Hills and other places. The N. Wadsworth site is located about 500 feet west of Mohawk Street on the north side of the road (Photos 26-28). Dry-laid fieldstone house and barn foundations were found. The entrance to the site was very wet and disturbed recently, probably when other fill was deposited at the site, damming up the natural drainage flow. The site is marked from the roadside by four large maples amid younger trees and shrubs and overgrowth. The house sits about 100 feet back from the road; besides the large maples there is little to mark this site as seen from the road. It is worth noting that the East Hill Cemetery, located about 500 feet southeast of the site, has the graves of several members of the Wadsworth family.

Table 4.4-7 Historic Domestic Archeological Sites

Site	Location	Map Documentation	Description
N. Wadsworth	North side of Higby Rd., 500 feet west of Mohawk St.	1852 Rogerson and Murphy, 1858 French, 1874 Beers, 1898 USGS.	House and barn foundation.
J. Davis	North side of Higby Rd., 300 feet east of the water tank.	1852 Rogerson and Murphy, 1858 French, 1874 Beers, 1898 and 1983 USGS.	House and barn foundations, stone-lined well, farm machinery.
E. Ensworth	Southwest corner of Chapman and Higby Roads.	1852 Rogerson and Murphy, 1858 French, 1874 Beers, 1898 USGS.	House foundation.
M. Blackstone	South side of Chapman Rd..	1852 Rogerson and Murphy, 1858 French, 1874 Beers, 1898 and 1955 USGS.	House, dairy barn and garage foundations.

The J. Davis site is located on the north side of Higby Road near the water tank east of Mohawk Street and opposite 516 Higby Road (Photos 29-31). This historic farm site seems to be better preserved than Wadsworth. There were also at least three late 19th century to early 20th century farm implements, including a hay rake and a reaper. The site is named for J. Davis, the name attributed to this farm on the 1852, 1858, and 1874 historical maps. The site also appears on the 1898 and 1983 USGS quadrangles.

The E. Ensworth site is located on the west corner of Higby Road and Chapman Road (Photos 32-33). The site consisted of a single fieldstone foundation about 20 square feet with no other visible structural remains. The entire site was covered with myrtle and a similar patch of myrtle was seen on the opposite side of Higby Road on the corner of Valley View Road, possibly indicating another site, although no structural remains were seen. This site is represented by E. Ensworth on all three historical maps and the 1898 USGS quadrangle.

One historic archeological site was noted on Chapman Road. The M. Blackstone site is located at a bend on the south side of the road just east of a new school (Photos 34-35). There have been recent storm water system updates on the road shoulder and the site itself was very wet. The site consisted of two concrete and fieldstone barn foundations set about 100 feet from the road. The larger foundation was clearly a dairy barn with gutters, iron rails and pump handles. The site is represented on the 1852, 1858, and 1874 historic maps as M. Blackstone as well as the 1898 and 1955 USGS quadrangles. A house foundation was indicated in a wooded area closer to the road.

All four of the archeological sites in the New Hartford Study Area are located near recent residential development and may in the future be subject to disturbance. Additionally, the 1852, 1858, and 1874 maps all note a schoolhouse on Higby Road opposite the intersection with Mohawk Street. No visible evidence was seen of the schoolhouse, i.e. foundation, but the location had recently been filled. Although there was no visible evidence of the presence of the school, this location should be considered archeologically sensitive.

Upland Industry

There were several areas of upland industry identified through examination of historical maps and visible observations made in the field. Table 4.4-8 lists the various mills, stone quarries, and iron mines from the 19th century that were once located in the eastern and western uplands.

Unfortunately, none of the iron mining sites were accessible at the time of the site visit because of landowner issues.

The iron mines and features were mostly noted on the 1858 French map of Oneida County. These were all located within the band of Clinton Group bedrock where there is hematite. There are likely to be archeological deposits associated with each of the map-documented iron mines and possibly at nearby domestic sites. One resident told of how a previous owner of her house on Tibbitts Road once oversaw the workers at the iron mine south of the road and looked after their well-being.

Another resident stated that the iron mines just west of the Town line on Winfield Street in Kirkland had elevators, mine shafts, and machinery mounts associated with a large-scale operation. Potential archeological contexts include roads, camps and temporary “mess hall” areas close to the mine, machinery and structural remains, and waste product dumps for blasted rock or spoil. Two of the known sites have left topographic features on USGS maps of this area (included in 2007 Town of New Hartford Comprehensive Plan Update Appendices). Similar ponds and erratic contours may indicate other unrecorded iron operations.

Table 4.4-8 Upland Industry Sites

Site	Location	Historic Documentation	Field Checked
Beckwith Saw Mill	Graffenburg Road, NE corner of Study Area.	1852 Rogerson and Murphy, 1858 French	No.
Saw Mill	North of Mallory Road, west of Mohawk Street on Chapman Creek.	1858 French.	No.
Iron Mines	Mohawk Street, south of East Hill Cemetery.	1858 French,	No.
Iron Mines	Tilden Avenue, near current residential facility.	1858 French,	No.
Stone Quarry	Tilden Avenue, near current residential facility.	1858 French,	No.
Iron Mine.	North of Tibbitts Road on unnamed stream.	1858 French, 1955 USGS	Confirmed, site marked on USGS map by a pond.
Iron Mine.	South of Tibbitts Road.	1858 French	Confirmed.
Stone Quarry.	North of Mallory Road, near unnamed stream.	1874 Beers.	Yes.

Source: Historical Maps

Stone quarries were associated with the sandstone, shale, and conglomerate rocks of the Clinton Group and the adjacent Lorraine, Trenton, and Black River Group, where siltstone and shale are found. One of the stone quarries was included in the site visit. The quarry on Mallory Road was located on the north side of the road adjacent to a stream that had cut through the bedrock.

Quarrying activities had reached all the way to the road shoulder and currently the landowner is slowly filling the site. The quarry made use of a natural bedrock outcrop facing west. Another stone quarry on the 1858 French map could not be field checked although it lies very close to the Charles T. Sitrin Health Care Center on Tilden Avenue and probably has been filled.

Finally, regardless of the obvious draw of the Sauquoit Creek as mill sites for industry, there were at least two sawmills in the eastern uplands. One of the mills was located on Pleasant Street or Graffenburg Road in the extreme northeast corner of the Study Area. This was likely owned and operated by the Beckwiths, a family name attributed to several structures and a cemetery in that area. The sawmill was situated on or near Starch Factory Creek and was indicated on the 1852 Rogerson and Murphy and 1858 French maps. Another saw mill was noted on Chapman Creek west of Mohawk Street on the 1858 French map. Little is known about this site and the location could not be field-checked. The location is so distant from other map-documented structures that attributing it to a family or landowner is difficult.

These upland industrial sites are interesting in light of their apparent short-term use. It may be that some of these sites were established as a supplemental income for farming families. Each would have required its own start-up costs and if no saleable ore was found, then the investment was lost. Historically, the iron industry in New Hartford was short lived compared to the more reliable and productive mines of the Champlain Valley and Adirondacks.

Cemeteries

The New York GenWeb site reports 11 cemeteries in the Town of New Hartford. Two of these, Sacred Heart and Green Lawn, are outside of the Study Area near the Village. Along with Temple Emmanuel Cemetery on Roberts Road, these three are the main active cemeteries in town. The Village cemetery, called the Old South Street Cemetery, was moved in the 20th century to make room for the high school. There are six other historic cemeteries in the Study Area, most of which are unmaintained and abandoned.

Table 4.4-9 Historic Cemeteries

Cemetery	Location	Status	Pop.	Dates	Map Documentation
Beckwith	Pleasant Street near Beckwith Circle and South Reservoir	Inactive, unmaintained.	≥15	1830-1899	1983 USGS.
Pittman	Tilden Avenue opposite Beckwith Circle	Inactive unmaintained.	≥13	1850-1890	1858 French, 1983 USGS.
East Hill	SE corner of Mohawk Street and Higby Road.	Active, good condition.	≥126	1803-present	1852 Rogerson and Murphy, 1858 French, 1874 Beers, 1983 USGS.
Ensworth	Higby Road, not field-checked.	Inactive, unmaintained, some removed.	≥22	1804-1952	None.
Lasher	Willowvale, not field-checked.	Inactive.	≥6	1869-1924	None.
Mallory	Mallory Road, not field-checked.	Inactive.	?	?	None.

Source: New York GenWeb 2007

The Mallory, Lasher, and Ensworth family cemeteries were not visited and very little information is available on the first two. The Beckwith and Pittman family cemeteries were in poor condition and have become illicit recreational sites, evidenced by broken bottles and toppled headstones. At Pittman, monuments were found down the slope east of the cemetery near an unnamed stream. The number of burials is likely greater than the visible population of each of the cemetery; since there has been a loss of headstones over the years. In addition, for some 19th century families, headstones were an unaffordable luxury, leading to unmarked graves in an otherwise well-defined cemetery.

Besides Temple Emmanuel, East Hill Cemetery is the only other active cemetery in the Study Area. The modern interments, based on a visual survey of the cemetery, are far outnumbered by historic burials. Names on headstones include Wadsworth and Tyler, both names seen on several map of documented structures on the 19th century historical maps.

Small family cemeteries are typical of the rural setting of upland New Hartford. The more dilapidated cemeteries are probably in danger of further degradation and eventual disappearance from the landscape if local historians and volunteers do not keep these grounds maintained. When discussing the cultural context of an archeological site, especially the 19th century domestic sites, like Ensworth and Wadsworth, it is essential to consider these cemeteries as part of the living environment.

19th and 20th Century Industrial Sites: The Sauquoit Creek Valley

Historic accounts of the industry of New Hartford belie a few common themes that are helpful in assessing their value to the archeological record. First, all of the mills witnessed several proprietary changes. These changes sometimes came after destruction by fire and flood or failure of the business. The beginning of a new phase of ownership brought about changes in the mill's product, workforce, and physical structure. This was common in industrial sites across New York State during this period. Alterations to the mill's physical structure and function are the most readily visible changes in the archeological record.

The archeological survey conducted in Washington Mills in 1981 by the NYSM noted that the hamlet bore very little of its 19th century layout as recorded in historical maps. Flood control projects and road construction covered and probably destroyed a great portion of the industrial complex that fostered growth in Washington Mills. Nonetheless, there are still vestiges of industrial works in Washington Mills, Willowvale, and Chadwicks as well as other associated contexts that all were tied to the mills. The archeology of most sites found in the valley along NY 8 could be tied in some way to life and work in the mills, whether it is worker housing, a tavern, a grocer, or the homes of the overseers and mill owners.

There are still some vestiges of the mills and factories along Oneida Street in Washington Mills. Tables 4.4-7, 4.4-8, and 4.4-9 lists some of the historic and archeological contexts observed during the site visit. There were no industrial sites encountered in the southern end of the Village of New Hartford. Most of the industrial sites were identified first on the hamlet insets included with the 19th century historical maps and then checked against the current conditions.

Proceeding from north to south along Oneida Street in Washington Mills, the first industrial site is the Huntley and Babcock Hoe and Fork Factory. A portion of the factory's history is provided in an earlier section. The 1874 Beers map shows the factory with a northern wing on the west side of the street very near the road. To the south is a large reservoir where a dam blocked Sauquoit Creek to feed a power canal. The power canal is located east of the stream and probably supplied the factory with power before the conversion to steam. The houses to the south were likely for factory workers, at least in part. A visit to the site reveals that not only is the factory gone but also there is no sign of the power dam, canal, or reservoir. A great portion of the land between the creek and the road has been filled between the row of houses and the documented location of the factory. The fill covers the site of the reservoir, although the power canal is still visible adjacent to Oneida Street. The factory foundation is visible only from the west side of the power canal facing east toward the road. A dry-laid fieldstone foundation is visible under the shoulder of the road. It is likely that Oneida Street has been moved in the recent past and the site is now covered by the new road bed. There are sure to be other vestiges of the hoe and fork factory under the fill, but it would require some effort to remove the overburden.

Much of the historical character of Washington Mills is lost near the intersection of Kellogg Road with Oneida Street. There are several modern structures covering the sites of the historic hotel, blacksmith shop, and company housing, although there are likely structural remains and associated archeological deposits beneath parking lots and landscaping.

The next series of industrial archeological contexts is the Stewart Mill. None of the mill complex is visible on the surface. The location of the largest map-documented structure on the western corner of Kellogg Road and Oneida Street is currently occupied by a restaurant and gas station. East of the creek, there are no surviving buildings from the 1874 map immediately surrounding the intersection. Chapman Creek leads into Sauquoit Creek north of the intersection and may have been channeled as a feeder stream to better support the reservoir above the hoe and fork factory. Currently, Chapman Creek runs behind a veterinary hospital and has been lined with rip-rap and possibly redirected. South of Kellogg Road, Chapman Creek runs through a concrete and stone lined channel and over two short falls behind the modern restaurant. There is nothing remaining of the Eastman structure around Chapman Creek where it crosses under Oneida Street, although there may be some 19th century stone walls east of the street bordering the creek.

The Stewart Mills structures surrounded Sauquoit Creek on the south side of Kellogg Road according to the 1874 map. Today, there are no signs of the mills. The reservoir has been filled and currently light industrial and commercial buildings are located there. Structural remains of the mill buildings between the creek and the modern-day alignment of NY 8 may be present, although this remaining "island" of green space is too small to harbor all of the buildings shown on the map. In spite of the large-scale changes, there are structures associated with the mills still standing today. North of Kellogg Road and west of the creek, there are three houses that correspond with the three houses noted on the 1874 maps and labeled G. Long. Based on their simple vernacular style and location, these were likely worker housing during the 19th century. Today they are residences near a modern restaurant on a cul-de-sac. South of Kellogg Road, there is a row of large fieldstones in the creek bed marking the location of a municipal sewer line. These lie in a position analogous to the map-documented location of the wing dam used to fill the reservoir and supply power to the Stewart Mills. Otherwise, there are few remaining historic structures within 500 feet of the intersection of Kellogg Road with Oneida Street.

Continuing south to Willowvale, the historic landscape resembles the 1874 Beers inset much more than its northern counterpart. The map indicates a headrace opposite the Glen between Sauquoit Creek and Oneida Street. Vestiges of this feature probably survive under the parking lots in front of the grocery and small retail stores on the east side of the street around Bleachery Avenue. By 1907, the Utica Willowvale Bleachery was constructed on the east side of the creek. This created a complex of structures, most of which are still standing on the grounds of Mohawk Packaging, as well as a reservoir for a power dam on the creek above the mills. The reservoir has been filled in, but the channeled feeder stream leading from the Glen is still visible north of Bleachery Avenue.

There are likely structural remains of Bleachery buildings under the parking lots currently used by Mohawk International. There are other Bleachery-related structures in the Town, including a power dam and reservoir at the head of the Glen and on the hill east of the railroad. Also, older mill structures may be evident on Oneida Street along the headrace. Opposite Grange Hill Road, there were two mills over a headrace on the creek in 1874 and 1907. Remains of these likely exist as well.

The domestic archeological component of Willowvale seems remarkably intact. There is relatively little modern development in the hamlet and nearly all of the map-documented structures still exist.

Chadwicks is the southernmost hamlet before the New Hartford-Paris town line. There were no insets of this hamlet on the 19th century maps, although the 1907 Century Map Company map showed the 20th century industrial development in detail. This was mainly confined to Elm Street east of Oneida Street and the railroad tracks. Currently, the sites of the Beckwith Leather Company and the Standard Silk Company are athletic fields. There are likely structural and archeological remains beneath this modern landscape. Much of the 19th century residential character of Chadwicks is still intact and there are likely archeological contexts from the historic period associated with each house.

4.4.6.9 Conclusion

The New Hartford Study Area has ample potential for archeological deposits in nearly every quarter of the Town. Native Americans would have used the Sauquoit Creek valley as a transportation corridor between the Mohawk River and Susquehanna River valleys and the uplands for hunting and gathering. Historically, early European settlement focused on the current village and hamlets and farms along Chapman, Higby, and Oxford Roads. Through the 19th century, settlement continued along parallel models. Dense settlement and industry centered proximate to the creek. Farm families settled in the hills east and west of the creek and cleared hundreds of acres of forest. The Study Area has an overall moderate sensitivity for archeological deposits. Some historic sites are visible on the surface and belie only a small part of the archeological context of the 19th century in New Hartford. Earlier historic deposits may be present in the Oxford, Higby, and Chapman Roads areas in the north end of the Study Area. Precontact, or Native American, archeological sites may be present in deep alluvial deposits in the valley floor or in scattered locations across the uplands.

Photos referenced follow this section. A list of research sources is included in the Appendix of this document.

**Figure 4.4-15 Clinton Group Bedrock and Iron Mines
Based on 1858 French Map**

This page is a placeholder. Because they are in an 11-by-17 tabloid format, maps are provided separately to facilitate printing and viewing.

Figure 4.4-16 Cemeteries and Newly Documented Archeological Sites

This page is a placeholder. Because they are in an 11-by-17 tabloid format, maps are provided separately to facilitate printing and viewing.

Figure 4.4-17 Photograph Angle Locations

This page is a placeholder. Because they are in an 11-by-17 tabloid format, maps are provided separately to facilitate printing and viewing.

Figure 4.4-18 Site Visit Photos



Photo 1. View facing west of a farm near the intersection of Mallory and Sessions Road. The hills in the background are in the western uplands portions of the study area. This is a typical scene south of Higby Road in the eastern uplands.



Photo 2. View facing south of Tilden Avenue near Beckwith Circle and the Pittman Family Cemetery located on the hill to the left.



Photo 3. View of an agricultural field on Mallory Road opposite the stone quarry facing south.



Photo 4. View of Heron Landing on Mohawk Street south of the East Hill Cemetery facing south. The residential development is still under construction and a smaller-scale subdivision is located opposite this on Mohawk Street. The iron water wheel in the foreground is likely the power wheel used by an adjacent farm to generate electricity in the 1930s. It has been integrated into the subdivision's logo.



Photo 5. View of a farmstead and house on the southern edge of the Glen on Gulf Road facing north.



Photo 6. View facing southwest of the slope of Grange Hill Road west of the hamlet of Chadwicks. The ground dropped sharply to the left.



Photo 7. View of Red Hill Road facing west near the hill at the center of the eastern uplands.



Photo 8. View of Jubilee Estates on Tibbitts Road facing west near the intersection with Oxford Road. A new subdivision is in the preliminary stages opposite this development.



Photo 9. View of the new subdivision loop road on Tibbitts Road opposite the Jubilee Estates facing east. The eastern uplands are visible in the background.



Photo 10. View facing north of Oneida Street in Washington Mills just north of the intersection with Chapman Road and Kellogg Road. Maps from the 19th century document several buildings along this stretch.



Photo 11. View of the intersection of Oneida Street with Kellogg and Chapman Roads facing south. The intersection was once home to a hotel and several large mill and industrial structures during the 19th century.



Photo 12. View of the three houses on a cul-de-sac north of Kellogg Road and west of Sauquoit Creek facing south. These houses correspond to the G. Long houses on the 1874 inset map of Washington Mills (Map 11c).



Photo 13. View facing south of the map-documented location of Stewart Mills wing dam on Sauquoit Creek. The large boulders from bottom right to top left mark the location of a municipal sewer line.



Photo 14. Modern rip-rap and silt fencing along Sauquoit Creek north of Kellogg Road facing northwest.



Photo 15. View of Chapman Creek facing south behind the modern restaurants south of Kellogg Road. The parking lot and commercial facilities to the right likely cover 19th century mill remains.



Photo 16. View of Chapman Creek east of Oneida Street and the stone-lined channel facing northwest.



Photo 17. The P.S. Eastman house on Oneida Street in Washington Mills facing east.



Photo 18. View of Oneida Street in Willowvale facing south between Oxford Road and Red Hill Road.



Photo 19. View of Oneida Street at center left facing north towards Bleachery Avenue. The Rogers and Spencer foundry and machine shops were located on the right side of the road near the large signboard.



Photo 20. View facing east of the Bleachery office building on Bleachery Avenue from the bridge over the Sauquoit Creek. One of the industrial buildings is visible to the right of the office.



Photo 21. View of the easternmost structures at the Bleachery complex facing southeast. There are likely archeological deposits under the parking lot relating to the Bleachery.



Photo 22. View of the Sauquoit Creek at the Bleachery south of Bleachery Avenue facing southeast.



Photo 23. View facing west of the stone-lined feeder stream channel from the Glen to Sauquoit Creek in Willowvale.



Photo 24. View of Sauquoit Creek in Chadwicks at Elm Street facing northwest. The dry-laid fieldstones in the creek bank may be remnants of the 1850s Eagle Mills factory.



Photo 25. View of 1850s tenement houses on Elm Street in Chadwicks facing west.



Photo 26. View of the N. Wadsworth site from Higby Road facing northeast. The large trees to the left mark the location of the house foundation. The overgrown area behind the trees marks the barn foundation.



Photo 27. View of the interior of the house foundation at the N. Wadsworth site facing south. The interior was overgrown with honeysuckle and other shrubs and vines and filled with rubble.



Photo 28. View of Higby Road and modern houses from the N. Wadsworth site facing south. The foundations are out of the frame to the right.



Photo 29. View of the J. Davis site from Higby Road facing north. The pine tree marks the site of the house foundation.



Photo 30. View of the interior of the J. Davis site house foundation facing northwest. Some cinder block additions can be seen in the left foreground, indicating 20th century updates to the 19th century house.



Photo 31. View of the farm machinery at the J. Davis site facing north behind the house foundation. On the left is a reaper; behind that in the center is a hay rake. Another unidentified implement is in the right background.



Photo 32. View of the E. Ensworth site facing southwest.



Photo 33. View of the house foundation at the E. Ensworth site facing west. Myrtle and hawthorn mark the site from the road.



Photo 34. View of the M. Blackstone site from Chapman Road facing south. At the shoulder are modern stormwater improvements. A house foundation is barely visible to the left and the barn foundation is located straight ahead in the background.



Photo 35. View of the large fieldstone dairy barn foundation at the rear of the M. Blackstone site facing south. Concrete gutters and steel pipes were indications of dairying at this site.



Photo 36. View of the Mallory Road Stone Quarry near the stream facing south towards the road. The bedrock ledge was probably naturally exposed before quarrying began. Modern fill is visible on the right side of the photo where the landowner is working to level the area.



Photo 37. View of the Pittman Family Cemetery facing northwest towards Tilden Avenue and modern houses on Beckwith Circle.



Photo 38. View of the Pittman cemetery facing northwest from the stream bed behind the site.



Photo 39. View of the East Hill Cemetery from the west side of the grounds facing east.



Photo 40. View of the house on the site of the former Quaker, or Friends, Meeting House and cemetery facing northeast. The cemetery is located behind the house and out of public view. (*Near Study Area*)



Photo 41. View of the location of the Huntley and Babcock Hoe and Fork Factory site facing northwest on Oneida Street in Washington Mills. The foundation is out of view over the road shoulder. The house in the background dates to the same time period as the factory.



Photo 42. View of the Hoe and Fork Factory foundation below the Oneida Street shoulder facing southeast. The guardrail along Oneida Street is visible at the top of the photo. This photograph was taken from the millrace.

4.5 The Socio-Economic Environment

4.5.1 Population and Housing Characteristics

4.5.1.1 Historical Population Patterns

In 2000, the Study Area had a population of 8,289, which represented an approximately 4% decrease from 1990 when the population was 8,603. During that same time period, the Town's population decreased 2%, the County's population decreased by 7% and the State's population increased by 5%.

Table 4.5-1 Population Change 1990-2000

	1990	2000	Percent Change 1990-2000
Study Area	8,603	8,289	-3.6%
New Hartford	21,634	21,169	-2.2%
Oneida County	250,836	235,469	-6.5%
New York State	17,990,455	18,976,457	5.2%

Source: US Census 2000 and peter j. smith & company, inc.

Conversely, between 1960 and 2000, the population of the Town of New Hartford had increased by 15%. The largest population increase occurred between 1960 and 1970. Since 1970, the population of the Town remained fairly constant up to the aforementioned period starting in 1990 through 2000 when the population declined.

Oneida County had its largest population in 1970 and experienced a steady decline in population between 1970 and 2000. A different pattern was seen in the State, however. The State's population decreased between 1970 and 1980 but grew consistently between 1980 and 2000 to surpass its 1970 population figure. Between 1960 and 2000 the County population decreased by 24% and the State increased by 13%.

Table 4.5-2 Population Trend 1960-2000

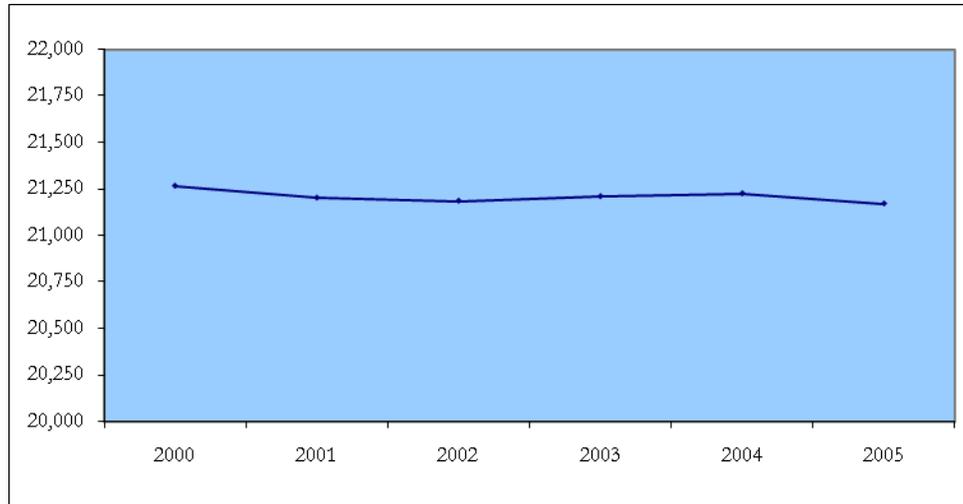
	1960	1970	1980	1990	2000	Percent Change 1960-2000	Percent Change 1990-2000
Town of New Hartford	18,444	21,430	21,286	21,634	21,169	14.8%	-2.2%
Oneida County	309,586	320,355	253,466	250,836	235,469	-23.9%	-6.5%
New York State	16,782,304	18,241,391	17,558,072	17,990,455	18,976,457	13.1%	5.2%

Source: US Census and peter j. smith & company, inc.

The population changes experienced by the Town, County and to a lesser extent by the State as a whole are reflective of a larger trend affecting the Northeast and Midwest segments of the United States. For several decades the Northeast and Midwest have lost population to the West and South as people seek more favorable climates and employment opportunities.

According to Census 2000 population estimates for local municipalities within each county, between 2000 and 2005 the Town of New Hartford’s population was relatively stable. The same was true for the County, which had an estimated population of 234,105 in 2005. However, the State’s population was estimated to have increased by about 2% to 19,315,721.

Figure 4.5-1 Town of New Hartford Population 2000-2005



Source: US Census 2000 - Population Estimates

4.5.1.2 Projected Growth Rates

Using a combination of Census 2000 data, as well as net migration rates, survivorship rates and fertility, the New York Statistical Information System at the Cornell Institute for Social and Economic Research (CISER) prepares population projections for the counties in New York State. As indicated in the table that follows, the County’s population is expected to shrink by approximately 4% between 2000 and 2030 while the State’s population is expected to grow by 3%.

**Table 4.5-3 Population Projections 2000-2030
Oneida County and New York State**

	2000	2005	2010	2015	2020	2025	2030	Percent Change 2000-2030
Oneida County	235,469	234,757	233,761	232,884	231,681	229,671	226,702	-3.7%
New York State	18,976,457	19,258,082	19,443,672	19,546,699	19,576,920	19,540,179	19,477,429	2.6%

Source: US Census and Cornell University and the CISER project

Similar population projections for the Town of New Hartford and the Study Area are not available, unfortunately. However, if the Town’s population follows the projected pattern for the County, the Town could have a population of 20,829 in 2030 and the Study Area population would decrease to 7,982. Even if the Town’s population follows a different pattern from the County, significant growth is not likely. Population projections are based on existing characteristics. These statistics are subject to change if conditions in the area change.

4.5.1.3 Race, Sex and Age Distribution

Based on Census 2000 data, the Study Area was similar to all comparison areas in that residents were primarily white and female. Table 4.5-4 shows the population characteristics of the Study Area in comparison to the Town, County, and State.

Table 4.5-4 Population Characteristics – 2000

	Study Area	New Hartford	Oneida County	New York State
White alone	95.8%	95.0%	88.4%	62.0%
Black or African American alone	1.2%	1.1%	5.5%	14.7%
Hispanic or Latino	0.0%	0.4%	3.1%	15.1%
Asian alone	2.1%	2.4%	1.2%	5.5%
Native American	0.0%	0.2%	0.2%	0.3%
Other	0.8%	0.9%	1.6%	2.5%
Sex				
Male	46.1	46.1%	49.7%	48.1%
Female	53.9	53.9%	50.3%	51.9%
Age				
0 to 17 years	22.9%	21.9%	23.9%	24.6%
18 to 34 years	15.2%	14.4%	21.0%	23.6%
35 to 49 years	23.0%	22.3%	22.9%	23.6%
50 to 64 years	19.9%	18.4%	15.7%	15.2%
65 + years	19.0%	23.0%	16.5%	12.9%
Median Age	43	44.6	38.2	36

Source: US Census Bureau and peter j. smith & company, inc.

The median age of residents in all comparison areas increased between 1990 and 2000. In 2000, the Town and the Study Area had median ages that were higher than the County and the State. The Study Area had a slightly lower median age than the Town as a whole.

4.5.1.4 Geographic Mobility

Census 2000 measured population mobility by determining the number of individuals who resided in the same place in 2000 as they had five years earlier. As indicated in the table that follows, 66% of the 7,916 residents in the Study Area who were 5 years and older had not changed their place of residence between 1995 and 2000. Interestingly, a significant number of residents had relocated to the Study Area from other communities within Oneida County during that time period. Almost one quarter of individuals who resided in the Study Area in 2000 were living in Utica, Rome or some other place in Oneida County in 1995. Despite the high rate of in-movers there was an overall decrease in the population of the Study Area.

Table 4.5-5 Geographic Mobility – 2000

Place of Residence in 1995	Percentage of 2000 Population
Total	7,916
Same house	66.1%
Utica or Rome	11.6%
Elsewhere in County*	11.8%
Herkimer County	1.7%
Some other NY County	3.1%
Northeast (Not New York)	2.1%
Midwest	0.4%
South	1.9%
West	0.9%
Foreign country or at sea	0.3%

*Including New Hartford

Source: US Census Bureau and peter j. smith & company, inc.

This slow to no growth trend has also been noted in the upstate New York Region since the first part of the twentieth century as people moved from the densely populated Northeast to locations in the South and West. That shift has accelerated since the 1980s. Manufacturing employment, a significant job source for the region, shifted to the South and West in pursuit of lower labor and land costs. Service sector employment that support manufacturing, such as transportation and warehousing followed and job seekers followed the job opportunities. Population and employment shifts created a powerful trend as individuals followed jobs out of the region, leading to additional declines in employment.⁷

4.5.1.5 Education Levels

Educational attainment levels of residents in the Study Area were higher than that of their counterparts in comparison areas, based on Census 2000 data. Within the Study Area, 46% of residents 25 years and older had an associate degree or higher compared to 43% in the Town, 28% in the County and 35% in the State. The Study Area also had higher percentages of residents with bachelor and graduate degrees.

Table 4.5-6 Educational Attainment for Population 25 Years and Older

	Study Area	New Hartford	Oneida County	New York State
No schooling completed	1.2%	0.9%	1.1%	1.8%
Nursery thru 8th grade	3.2%	4.3%	5.8%	6.2%
9th thru 12th, No Degree	5.8%	8.3%	14.1%	12.9%
High school graduate	43.4%	43.4%	51.5%	44.5%
Associate degree	11.6%	10.1%	9.2%	7.2%
Bachelor's degree	19.4%	18.2%	10.9%	15.6%
Graduate or Professional Degree	15.4%	14.8%	7.4%	11.8%

Source: US Census Bureau and peter j. smith & company, inc.

⁷ Buffalo Branch, Federal Reserve Bank of New York, The Regional Economy of Upstate New York Winter 2005

4.5.1.6 Housing Availability

Census 2000 data indicates that there were 3,423 housing units in the Study Area and 96% of them were occupied. The Study Area had a higher occupancy rate than the Town, County and State. Of the total housing units in the Study Area, 72% were in single-unit structures, 24% were in multi-unit structures and 4% were mobile homes. The relatively few dwellings that are in two-unit structures suggest that more Study Area apartment units are in apartment buildings and complexes than in converted single-family homes. This statistic could also indicate the relatively high number of single family occupancy in the Study Area. Both the Study Area and the Town have fewer renters than their counterparts at the County and State level, further indicating the higher proportion of residents seeking housing as owner-occupied. The Town's 2007 Comprehensive Plan recommended development of more diverse housing choices.

Table 4.5-7 Housing Characteristics – 2000

	Study Area	New Hartford	Oneida County	New York State
Total housing units	3,423	9,088	102,803	7,679,307
Occupied	95.9%	94.7%	88.0%	91.9%
Owner occupied	74.2%	74.7%	67.2%	53.0%
Renter occupied	25.8%	25.3%	32.8%	47.0%
Vacant	4.1%	5.3%	12.0%	8.1%
Single-unit structures	72.1%	69.4%	59.6%	46.6%
Two-unit structures	5.2%	6.9%	15.3%	10.9%
Three or more-unit structures	19.1%	17.2%	18.3%	39.7%
Mobile homes	3.6%	6.6%	6.7%	2.7%
Boat, RV, van, etc.	0.0%	0.1%	0.1%	0.1%
Total households	3,331	8,606	90,496	7,056,860
Average household size	2.46	2.34	2.43	2.61

Source: US Census Bureau and peter j. smith & company, inc.

The Study Area had 3,331 households in 2000. The average household size was 2.5 people, comparable with that of the Town (2.3 people), the County (2.4 people) and the State (2.6 people).

Census 2000 data indicates that the Study Area had relatively newer housing stock than the Town, County and State. Almost 40% of the housing units in the Study Area were built in 1970 or later years compared to 34% in the Town, 26% in the County and 26% in the State.

Table 4.5-8 Age of Structures – 2000

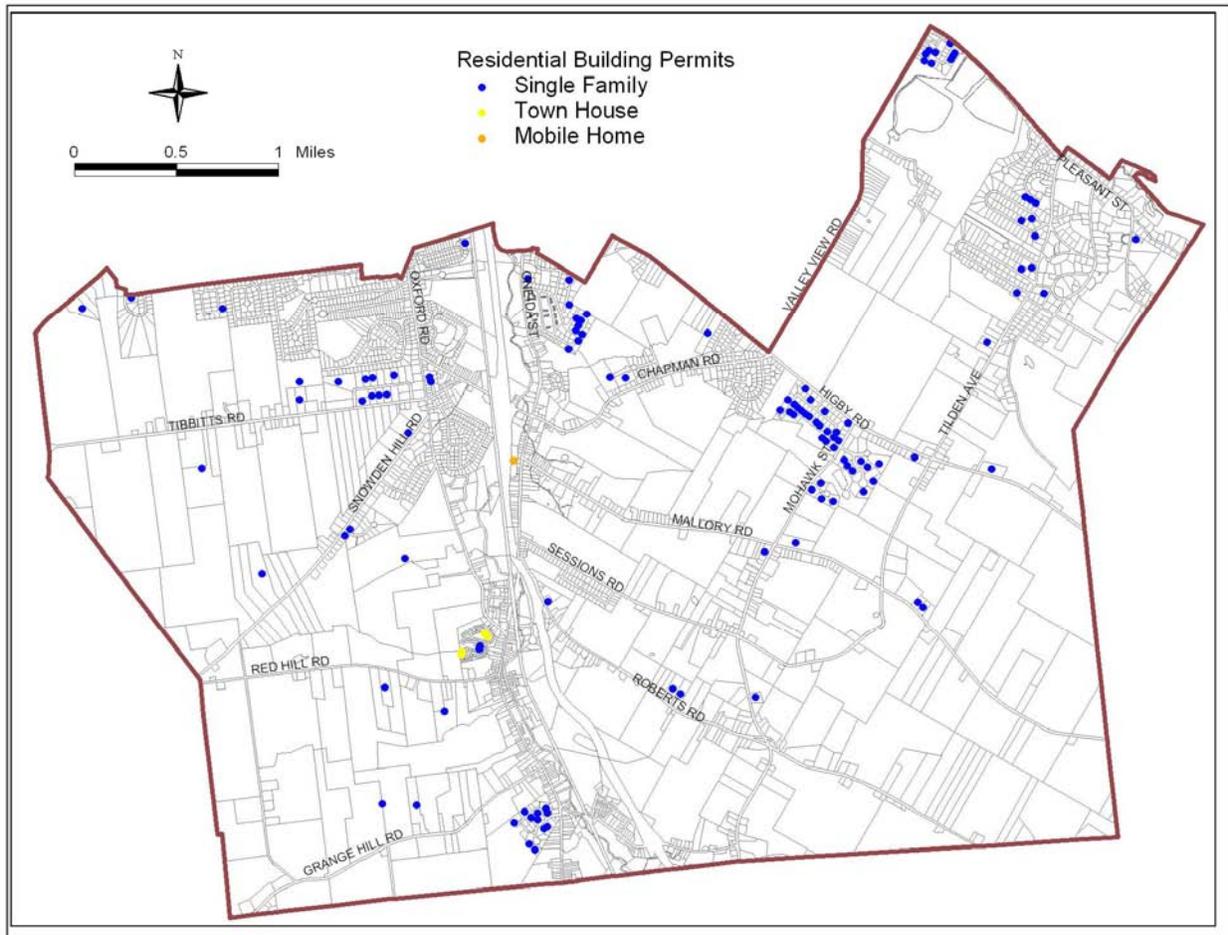
	Study Area	New Hartford	Oneida County	New York State
Built 1990 to 2000	7.2%	9.6%	7.6%	6.8%
Built 1980 to 1989	10.7%	9.7%	8.4%	7.7%
Built 1970 to 1979	19.2%	15.1%	9.8%	11.3%
Built 1960 to 1969	17.9%	13.5%	11.2%	14.6%
Built 1950 to 1959	18.6%	21.7%	16.2%	16.4%
Built 1940 to 1949	8.4%	11.1%	10.0%	11.9%
Built 1939 or earlier	18.1%	19.3%	36.8%	31.2%
Median Year Built	1963	1959	1952	1954

Source: US Census Bureau and peter j. smith & company, inc.

Between January 2000 and 2007, 148 building permits were issued for new residential construction (130 single-family units, 10 town houses and 8 mobile homes). Based on the number of households

in 2000, the number of new units represents an average annual growth rate of .552%. At this rate, it can be presumed that by 2030, there would be an additional 448 residential units in the Study Area.

**Figure 4.5-2 Building Permits Issued for Study Area
2000 to 2008**



Source: Town of New Hartford and peter j. smith & company, inc

4.5.1.7 Home Values and Rents

In 2000, the Study Area had a higher median home value (\$103,500) than both the Town (\$95,300) and the County (\$76,500). The largest percentages of homes in the Study Area were priced in two distinct ranges: \$100,000 to \$124,999 and \$90,000 to \$99,999.

Table 4.5-9 Home Values – 2000

	Study Area	New Hartford	Oneida County	New York State
Less than \$25,000	0.0%	0.1%	1.8%	0.8%
\$25,000 to \$49,999	2.4%	2.6%	12.0%	4.8%
\$50,000 to \$59,999	4.3%	5.1%	11.8%	3.7%
\$60,000 to \$69,999	6.8%	10.6%	15.1%	5.0%
\$70,000 to \$79,999	11.6%	13.5%	14.2%	5.8%
\$80,000 to \$89,999	8.2%	12.4%	12.0%	6.5%
\$90,000 to \$99,999	13.4%	10.5%	9.7%	5.5%
\$100,000 to \$124,999	24.0%	17.0%	10.1%	9.2%
\$125,000 to \$149,999	10.5%	8.5%	5.7%	9.1%
\$150,000 to \$174,999	4.9%	4.8%	3.0%	9.0%
\$175,000 to \$199,999	6.8%	4.8%	1.8%	8.4%
\$200,000 to \$249,999	3.7%	4.9%	1.4%	11.2%
\$250,000 to \$299,999	2.0%	2.7%	0.6%	7.5%
\$300,000 or more	1.7%	2.5%	0.7%	13.5%
Median	\$103,500	\$95,300	\$76,500	\$148,700

Source: US Census Bureau and peter j. smith & company, inc.

The Study Area had a higher median contract rent in 2000 than the Town as a whole and the County. Most renters in the Study Area paid \$500 to \$599 (27%) or \$300 to \$399 (26%) in 2000.

Table 4.5-10 Rent – 2000

	Study Area	New Hartford	Oneida County	New York State
Less than \$100	0.0%	1.4%	1.7%	1.2%
\$100 to \$199	0.0%	3.7%	8.1%	5.9%
\$200 to \$299	2.4%	5.3%	14.1%	5.8%
\$300 to \$399	25.5%	24.0%	31.6%	8.9%
\$400 to \$499	14.7%	18.6%	23.4%	12.3%
\$500 to \$599	27.0%	20.6%	9.2%	13.5%
\$600 to \$699	13.7%	12.7%	3.9%	13.3%
\$700 to \$799	4.2%	3.0%	1.0%	10.1%
\$800 to \$899	0.0%	0.5%	0.6%	7.7%
\$900 to \$999	2.5%	2.6%	0.3%	4.8%
\$1,000 or more	3.0%	2.0%	0.9%	13.3%
No cash rent	7.0%	5.6%	5.1%	3.1%
Median contract rent	\$525	\$466	\$375	\$605

Source: US Census Bureau and peter j. smith & company, inc.

4.5.2 Parks and Recreation Inventory

The amount and quality of the parks within a community has an influence on the quality of life. Parks can be a draw for residential development and raise the property values of existing residential areas. A park with a regional draw can also promote commercial development.

4.5.2.1 Existing Park and Recreation Facilities

The following parks are located within the Study Area:

Washington Mills Athletic Park (21 acres) – located in the hamlet of Washington Mills at 3695 Oneida Street. Amenities include three multi-use fields (softball/soccer), a batting cage, one pavilion, four picnic sites with grills, a hiking trail, playground, handicapped accessible restrooms and a 60-foot handicapped accessible fishing boardwalk. The southwest portion of the park is undeveloped woodland while the northern portion of the park is jurisdictional wetland.

Donovan Memorial Park (17 acres) – located on Elm Street in the Hamlet of Chadwicks. This park is classified as a community playfield and provides the following amenities: one small picnic shelter, one group use pavilion, nine picnic sites, one baseball field, two tennis courts, one basketball court.

In addition to the town parks, there are other recreational facilities that are not owned by the town, however are used by the residents. The table that follows identifies facilities within the Study Area that are used for recreational programs but are owned by entities other than the Town.

Table 4.5-11 Other Facilities Used for Town Programs

Owner	Facility	Area Used
New Hartford School District	E.R. Hughes Elementary	Basketball Court
		Gym
		Playground
	Ralph Perry Junior High	Football field
		Gym
		Indoor pool
		Soccer field (2)
		Softball field
		Weight room
		Track (6-lane)
	St. George's Episcopal Church	

Source: Town of New Hartford Recreation Department

4.5.2.2 Park and Recreation Facility Analysis

The recreational needs of residents within the Study Area are met by resources both within and outside the Study Area boundaries. Therefore, the recreation facility analysis is based on Town-wide resources.

According to the 2007 Town of New Hartford Comprehensive Plan Update, the Town has 41 acres of community playfields, a 216-acre major community park and 67 acres of urban greenspace/open space. Playground facilities generally provided in neighborhood playgrounds and parks are available in the community playfields and major community parks, which are well dispersed throughout the community, as well as at the schools throughout the Town, which are available for use by residents.

Communities often use baseline service provision standards prepared by the National Recreation and Park Association as a guide in developing their parks and recreation strategies. For neighborhood parks and play grounds the standard is 1-2 acres per 1,000 persons and for community parks, 5-8 acres per 1,000 persons. Using the higher figure of the range provided in the NRPA's parks standards, the Town was found to have a one-acre deficit in community playfields, a 48-acre surplus in community parks and a 46-acre surplus in greenspace/open space parks for its population of approximately 21,000. A comprehensive Town-wide trail system was recommended to enhance the trail system that currently exists in Sherrill Brook Park.

The following table was included in the Comprehensive Plan. The table identifies recommended recreation facilities standards for the Town that is based on standards prepared by the NRPA but has been tailored to meet the needs of local residents, as identified in the public input process and trends analysis.

Table 4.5-12 Recreation Facilities Standards

<i>Activity/ Facility</i>	<i>NRPA Units Per Population (2001 Plan)</i>	<i>Service Radius</i>	<i>Location Notes</i>	<i>Recommended New Hartford Standard 2005</i>	<i>New Hartford Need</i>	<i>New Hartford Provision</i>	<i>Surplus/ (Shortage)</i>
FIELDS PROGRAMMED PRIMARY USES							
Baseball	1 per 5,000 (if also used for youth baseball) Lighted 1 per 30,000	¼ - ½ mile	Part of neighborhood complex. Lighted fields part of community complex.	1 per 3,000	7	3	(4)
Football	1 per 20,000	15-30 minutes travel time	Same as field hockey.	1 per 7,000	3	3	0
Soccer	1 per 10,000	1-2 miles	Number of units depends on popularity. Youth soccer on smaller fields adjacent to schools or neighborhood parks.	1 per 2,500	8	11	3
Softball	1 per 5,000 (if also used for youth baseball)	¼ - ½ mile	Slight differences in dimensions for 16" slow pitch. May also be used for youth baseball.	1 per 2,000	10	8	(2)
FIELDS PROGRAMMED SECONDARY USES							
Field Hockey	1 per 20,000	15-30 minutes travel time	Usually part of baseball, football, soccer complex in community park or adjacent to high school.	1 per 20,000	1	0	(1)

<i>Activity/ Facility</i>	<i>NRPA Units Per Population (2001 Plan)</i>	<i>Service Radius</i>	<i>Location Notes</i>	<i>Recommended New Hartford Standard 2005</i>	<i>New Hartford Need</i>	<i>New Hartford Provision</i>	<i>Surplus/ (Shortage)</i>
Lacrosse	1 per 20,000	15-30 minutes travel time	Usually part of baseball, football, soccer complex in community park or adjacent to high school.	1 per 20,000	1	0	(1)
FIELDS MUTLI-USE NOT PROGRAMMED							
Mixed Field Use including soccer lacrosse, baseball, football, field hockey	N/A	N/A	N/A	1 per 3,000	7	5	(2)
COURT SPORTS							
Basketball	1 per 5,000	¼ - ½ mile	Outdoor courts in neighborhood and community parks, plus active recreation areas in other park settings.	1 per 2,000	10	7	(3)
Tennis	1 court per 2,000	¼-½ mile	Best in batteries of 2-4. Located in neighborhood/ community park or adjacent to school	1 per 2,000	10	15	5
Multiple Recreation Court (basketball, volleyball, tennis)	1 per 10,000	1-2 miles.		1 per 10,000	2	0	(2)
OTHER							
Trails	1 system per region	N/A		1		1	1
Skate Park	1 per 50,000 population	2 - 3 mile service radius	In community or regional parks	1 per 50,000	1	0	(1)

<i>Activity/ Facility</i>	<i>NRPA Units Per Population (2001 Plan)</i>	<i>Service Radius</i>	<i>Location Notes</i>	<i>Recommended New Hartford Standard 2005</i>	<i>New Hartford Need</i>	<i>New Hartford Provision</i>	<i>Surplus/ (Shortage)</i>
Archery Range	1 per 50,000	30 minutes travel time	Part of regional or metro park complex.	0	0	0	0
Combination Skeet and Trap Field (8 Stations)	1 per 50,000	30 minutes travel time	Part of regional/metro park complex	0	0	0	0
WATER, WATER SPORTS							
Swimming Pools	1 per 20,000	15 to 30 minutes travel time	Pools for general community use should be planned for teaching, competitive and recreational purposes with enough depth (3.4m) to accommodate 1m and 3m diving boards. Located in community park or school site.	1 per 20,000	1	0	(1)
Beach Areas	N/A	N/A	Should have sand bottom with slope maximum of 5 % (flat preferable). Boating areas completely segregated from swimming areas.			0	0
WINTER SPORTS AREAS							
Ice Hockey	Indoor – 1 per 100,000	½ - 1 hour travel time	Climate important consideration affecting no. of units. Best as part of multi-purpose facility.	Indoor – 1 per 100,000	1	1	0
Natural Skating Areas	Outdoor - 1 per 2,500	N/A		Outdoor - 1 per 10,000	2	0	(2)

Source: NRPA and peter j. smith & company, inc.

4.5.3 Municipal Services and Facilities

The New Hartford Central Dispatch Center answers all 7-digit emergency and non-emergency calls as well as 911 calls placed to the New Hartford Police Department, New York Mills Police Department, New Hartford Fire Department, New York Mills Fire Department, Willowvale Fire Department and the Town and Village Highway Departments. Through the use of Computer Aided Dispatch, the dispatcher is able to locate an address to the closest two intersections. The dispatch system also keeps records of all hazardous materials located within the Town. A list of all residents with health concerns or disabilities is also maintained for purposes of having known information readily available in the event of an emergency. Central dispatch has a full time staff of seven that includes a supervisor and 12 part-time employees.

4.5.3.1 Police

The New Hartford Police Department (NHPD), an accredited police department, is the primary provider of police protection in the Town of New Hartford. The NHPD is a full-time, professional force that patrols 25 square miles within the Town and Village of New Hartford. The Oneida County Sheriff's Department and the New York State Police provide supplemental police services to the Town. The NHPD is located in the Madden Justice Building at 32 Kellogg Road.

As of data collected for 2007, the NHPD has 21 full-time and seven part-time employees, for a total of 24.5 full-time equivalent employees. The current police staff is appropriate to serve the resident population but is not appropriate to handle the additional daily transient population. In 2006, the NHPD handled over 23,000 incidents. The New York State Department of Criminal Justice Service (DCJS) suggests a standard of one officer per 1000 population, where population includes not only the residents of the Town but all who enter the jurisdiction on a daily or part-time basis. Using the DCJS standard, the Town should have 25 police officers instead of its current 24.5 full time equivalent.

4.5.3.2 Fire

Three Volunteer Fire Departments, operating under a mutual aid system, provide services to the residents of the Town of New Hartford:

- Willowvale Fire Company – Located at 3459 Oneida Street in Chadwicks, the Willowvale Fire Company is contracted by the Town of New Hartford to provide fire and E.M.S. services to the southern section of Town including the Chadwicks and Washington Mills area. The 48-member fire company has a primary response area that covers 15 square mile and includes a population of about 3,000 residents. Services include: Firefighting, Hazardous Material Response, ALS Emergency Medical Service, Vehicle Rescue (Extrication) and Search & Rescue. In 2005, the Willowvale Fire Company responded to 208 calls and approximately 70% of those were rescue and emergency medical service calls. In 2006, the Willowvale Fire Company responded to 232 calls. Rescue and emergency medical service incidents accounted for 69% of the calls and fires accounted for 5%.

Figure 4.5-3 Recreation Facilities

This page is a placeholder. Because they are in an 11-by-17 tabloid format, maps are provided separately to facilitate printing and viewing.

- New Hartford Fire Department (NHFD) – Located at 4 Oxford Road in New Hartford, the NHFD protects the west, east and central sections of the Town, providing both fire protection and emergency medical services. The 97-member fire company protects a 25 square mile area that includes a population of over 22,000. Equipment includes 3 engines, 1 tower and 5 rescue vehicles. In 2006, the NHFD responded to 1,070 incidents. Rescue and emergency medical service incidents accounted for the largest percentage (75%) of the calls and fires accounted for approximately 4%. The NHFD is the largest volunteer fire company in the tri-county area.
- New York Mills Fire Department (NYMFD) – Located at 379 Main Street in New York Mills, the NYMFD protects the northern section of the Town including French Road, Burrstone Road and Consumer Square. The 68-member fire company protects 11,500 citizens, in a 47 square mile area containing the Village of New York Mills and parts of the Town of New Hartford and Whitestown. The NYMFD provides both fire and emergency rescue services to citizens using 3 engines, 1 truck and 2 rescue vehicles. In February 2007, the NYMFD purchased and put in service a new 2006 Rescue Truck.

The three fire companies have joint training exercises to ensure that the companies work together in an efficient and effective manner when responding to emergencies. Members of the three fire departments receive weekly, on-going training in a variety of forms including hands-on and seminars. Training is provided by the local fire department school and the State's training school. The NHFD and the NYMFD have capital improvement plans that replace a major piece of equipment every 5 years, so no piece of equipment is more than 20 years old. The Willowvale Fire Company does not have a similar system, instead they purchase new equipment as funds become available. All three companies have staff and equipment to meet current and future needs.

4.5.3.3 Ambulance

Two privately owned companies and one volunteer ambulance corps provide service to the Town of New Hartford. Kunkel Ambulance Service in Utica and Edwards Ambulance Service in Chadwicks are the private providers. The Central Oneida County Volunteer Ambulance Corps is located in Clark Mills. It was determined that there is an adequate supply of ambulance services.

4.5.3.4 Health Care Facilities

Four health care facilities are located within the Town of New Hartford. One (Charles T. Sitrin Health Care Center) is located in the Study Area and the other three (Faxton-St. Luke's Healthcare, Middle Settlement Family Practice and Slocum-Dickson Medical Group P.C) are located in the northern portion of the Town.

The Charles T. Sitrin Health Care Center, at 2050 Tilden Avenue, provides long-term care for 133 skilled nursing patients, 40 medical rehabilitation inpatients, as well as a comprehensive array of rehabilitative services, including physical, occupational, speech and aquatic therapies for persons of all ages.

Faxton-St. Luke's Healthcare and Middle Settlement Family Practice are part of the Mohawk Valley Network (MVN), an integrated healthcare system that provides care to residents of Oneida and Herkimer Counties. This affiliation of medical service providers includes long-term care facilities, inpatient and community-based rehabilitation centers, cancer centers, addiction recovery services, imaging centers, a regional clinical laboratory, a network of primary care centers and home care providers. Member facilities provide 432 acute care beds and 279 active medical staff members. The

St. Luke's Campus is located at 1656 Champlin Avenue and the Middle Settlement Family Practice is located at 4301 Middle Settlement Road.

The Slocum-Dickson Medical Group P.C has its central location at 1729 Burrstone Road in the Town of New Hartford. Facilities are also located in Herkimer, Ilion, Rome and Utica. The practice employs over 60 physicians and approximately 375 staff members in 24 specialty areas. There are plans to add approximately 40,000 square feet to the existing building and incorporate the former Med Scan Building at 615 French Road into its campus. Additional staff will include 25 physicians and about 150 support staff. The new building will have the latest in electronic medical records technology for use by physicians and staff.

4.5.4 Educational Facilities

Two school districts serve residents in the Study Area: New Hartford Central and Sauquoit Valley Central. Most of the Study Area population is served by the New Hartford Central School District.

The New Hartford Central School District had a total enrollment of 2,670 students and the Sauquoit Valley Central School District had a total enrollment of 1,167 students during the 2006-07 school year. Enrollment figures in all school districts serving the Town were relatively stable between 2001 and 2004.

The table that follows shows building capacities and enrollment rates between 2003 and 2007. There is excess capacity in all buildings except Robert L. Bradley Elementary School, which had enrollment of 481 students and a building capacity of 339 students during the 2007-08 school year.

Table 4.5-13 School Districts Facilities

School	Address	Grades	Building Capacity	Enrollment 2003-2004	Enrollment 2004-2005	Enrollment 2005-2006	Enrollment 2006-2007
New Hartford Central School District							
Hughes Elementary School	340 Higby Rd	K-6	594	538	533	529	536
Myles Elementary School	100 Clinton Rd	K-6	594	347	377	369	357
Robert L. Bradley Elementary School	33 Oxford Rd	K-6	339	439	453	456	481
Perry Junior High School	9499 Weston Rd	7-9	1,262	675	628	649	624
New Hartford High School	33 Oxford Rd	10-12	1,039	671	676	666	672
Sauquoit Valley Central School District							
Sauquoit Valley Elementary	2601 Oneida St	K-5	1,300	526	484	457	435
Sauquoit Valley Middle School	2601 Oneida St	6-8	775	318	317	310	307
Sauquoit Valley Senior High School	2601 Oneida St	9-12	1,000	449	448	447	425

Source: NYS Education Department

Of the five schools in the New Hartford Central School District, two are located in the Study Area: Hughes Elementary and Perry Junior High. Another educational facility also located in the Study Area is the United Cerebral Palsy Learning Center, a private school at 3390 Brooks Lane.

The New Hartford Central School District offers eleven advanced placement courses including United States History, European History, Government, Computer Science, Micro Economics, English, French, Spanish, Calculus AB, Chemistry and Biology. The number of students taking advanced placement exams is nearly five times the national average. Fifteen Regents Level courses are also offered including the state's first approved Regents Level course in Ecology.

In 2006, 271 students in grades 10-12 participated in taking more than 500 AP exams in 13 subjects to include Biology, Calculus, Chemistry, and Physics. Two thirds of New Hartford students taking those exams scored an equivalent of a B or higher in a college course and 80 students earned Advanced Placement Scholar Awards.

In March 2007, voters approved a \$26 million Capital Improvement Project for the school district. There are three components to the project: replacement of the district's 1932 auditorium with a Community Performing Arts Center, replacement of the high school's 1960s math, science and technology (MST) classrooms with a two-story wing and replacement of the high school athletic field. Revenue sources for the project include: state building aid (50%), debt service offsets (5%) and local contribution (45%). The project is scheduled to start in 2008 and be completed by 2011.

Projected costs are as follows:

Performing Arts Center	\$9,800,000
Music Classroom and Rehearsal Areas	\$5,840,000
Math, Science & Technology Wing	\$7,540,000
Multi-use Playing Field/Lighting	\$2,250,000
Bus Facility Repair	<u>\$340,000</u>
	\$25,770,000

4.5.5 Economic Conditions

4.5.5.1 Employment Characteristics

The size of a community's labor force is an indicator of the availability of workers in the community. The labor force consists of the members of the population that are 16 years and older who are willing and able to work. Retirees and those that dropped out of the workforce are not included in labor force figures. As indicated in the table that follows, in 2000, the Study Area had a higher percentage of its population in the labor force than the Town, County and State. The Study Area had an unemployment rate of 4%, which was slightly higher than the Town but lower than the County and the State.

Table 4.5-14 Labor Force – 2000 Population 16 years or older

	Study Area	New Hartford	Oneida County	New York State
Percent in labor force	64.1%	59.2%	58.9%	61.1%
Percent in labor force unemployed	4.0%	3.3%	5.9%	7.1%

Source: US Census Bureau and peter j. smith & company, inc.

Within the Study Area and all comparison areas, education and health and social services were the most important employment sectors. These two sectors provided employment for almost one-third of the Study Area's population. The same industries that employed most residents in the Town as a whole were also the primary employers for the Study Area. The other important employment sectors for the Study Area and the Town were retail trade (13% and 11% respectively) and finance, insurance, real estate and rental and leasing (10% each). The Study Area's major employment sectors were similar to those of the State as a whole.

Table 4.5-15 Industries of Employment – 2000 Population 16 years or older

	Study Area	New Hartford	Oneida County	New York State
Agriculture, forestry, fishing and hunting, and mining	0.3%	0.8%	1.4%	0.6%
Construction	2.4%	3.1%	4.3%	5.2%

	Study Area	New Hartford	Oneida County	New York State
Manufacturing	9.7%	8.6%	13.8%	10.0%
Wholesale trade	3.8%	3.5%	3.0%	3.4%
Retail trade	12.5%	10.8%	12.2%	10.5%
Transportation and warehousing, and utilities	3.1%	2.9%	3.9%	5.5%
Information	1.6%	2.2%	2.4%	4.1%
Finance, insurance, real estate and rental and leasing:	10.4%	10.1%	8.4%	8.8%
Professional, scientific, management, administrative, and waste management services	6.4%	6.7%	5.9%	10.1%
Educational, health and social services	31.2%	33.0%	25.8%	24.3%
Arts, entertainment, recreation, accommodation and food services	7.1%	6.7%	7.3%	7.3%
Other services (except public administration)	5.3%	5.5%	4.9%	5.1%
Public administration	6.3%	6.2%	6.8%	5.2%

Source: US Census Bureau and peter j. smith & company, inc

Similarities existed in the types of occupations that were held by residents in all comparison areas just as there were in important employment sectors. More than a quarter of the Study Area residents held professional and related occupations positions. This was also true for the comparison areas. A good portion of the Study Area residents also held positions in office and administrative support (17%) and sales and related activities (15%).

Table 4.5-16 Occupations – 2000 Population 16 years or older

	Study Area	New Hartford	Oneida County	New York State
Management, business, and financial operations occupations	12.8%	13.7%	10.9%	13.5%
Professional and related occupations	27.0%	30.3%	20.8%	23.2%
Healthcare support occupations	1.9%	2.2%	3.3%	3.0%
Protective service occupations	3.5%	2.9%	3.2%	2.8%
Food preparation and serving related occupations	4.6%	4.4%	5.2%	4.5%
Building and grounds cleaning and maintenance occupations	2.3%	3.2%	3.2%	3.4%
Personal care and service occupations	3.0%	3.3%	3.1%	2.9%
Sales and related occupations	14.5%	11.8%	9.8%	10.8%
Office and administrative support occupations	17.3%	15.0%	17.0%	16.3%
Farming, fishing, and forestry occupations	0.0%	0.5%	0.6%	0.3%
Construction and extraction occupations:	2.8%	2.6%	3.7%	4.3%
Installation, maintenance, and repair occupations	2.9%	3.0%	3.9%	3.2%
Production occupations	3.3%	3.6%	9.6%	6.4%
Transportation and material moving occupations	4.1%	3.6%	5.7%	5.3%

Source: US Census Bureau and peter j. smith & company, inc

4.5.5.2 Income Characteristics

A community's wealth can be measured using two figures: per capita income and median household income. Per capita income better reflects total wealth within the community while median household income illustrates the distribution of income within the community. Per capita income is determined by dividing the total income of residents by the total size of the population. Median household income is the income level at which the number of households above that level, or with higher incomes, equals the number of households below that level, or with lower incomes.

Figure 4.5-4 Community Facilities

This page is a placeholder. Because they are in an 11-by-17 tabloid format, maps are provided separately to facilitate printing and viewing.

The Study Area had a per capita income of \$29,766 and a median income of \$50,203, in 1999. Both per capita and median income was higher in the Study Area than in the Town, the County and the State.

Table 4.5-17 Household Income – 1999

	Study Area	New Hartford	Oneida County	New York State
Less than \$10,000	5.0%	5.9%	11.0%	11.5%
\$10,000 to \$19,999	10.3%	13.5%	15.8%	12.2%
\$20,000 to \$29,999	12.6%	13.4%	15.3%	11.6%
\$30,000 to \$39,999	11.2%	10.6%	12.8%	11.0%
\$40,000 to \$49,999	10.7%	10.4%	11.0%	9.5%
\$50,000 to \$74,999	20.8%	19.7%	19.1%	18.4%
\$75,000 to \$99,999	11.2%	10.7%	8.1%	10.6%
\$100,000 to \$124,999	4.8%	5.6%	3.2%	6.0%
\$125,000 to \$149,999	2.6%	3.4%	1.5%	3.1%
\$150,000 to \$199,999	5.5%	3.4%	1.1%	2.9%
\$200,000 or more	5.3%	3.5%	1.0%	3.3%
Median Income	\$50,203	\$45,991	\$35,909	\$43,393
Per Capita Income	\$29,766	\$26,528	\$18,516	\$23,389
Percent Below Poverty Level	4.6%	5.0%	13.0%	14.6%

Source: US Census Bureau and peter j. smith & company, inc

According to Census data, 585 business establishments with 10,903 employees and over \$1.08 billion in shipments, sales, receipts or revenue, were located in the Town of New Hartford in 2002. Those figures had all increased from 1997 when there were 565 establishments with 9,531 employees and about \$974.7 million in shipments, sales, receipts or revenue. Most of those businesses are located in the northern portion of the Town outside the Study Area.

4.5.5.3 Major Employers

Three of the Town of New Hartford's 15 major employers are located in the Study Area, according to information obtained from the Town of New Hartford Planning Department:

Sitrin Health Care Center – 460 employees

New Hartford Central School – 414 employees

Mohawk Limited – 85 employees

It should be noted that the employee count is a total for the business operation as reported by each business and may include employees that work outside the Study Area or the Town of New Hartford.

4.5.5.4 Town Budget

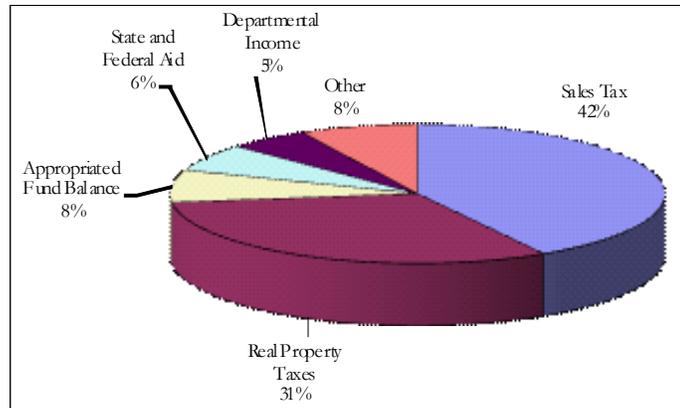
The Town of New Hartford adopted a 2007 budget that totals approximately \$13.3 million. The following is a summary of the revenues and expenditures included in the 2007 budget.

Revenue Sources

In the 2007 adopted budget, sales tax is the most significant revenue generator; accounting for approximately 42% (\$5.5 million) of the Town's revenues. The other major revenue sources are real property taxes and the appropriated fund balance. Real property taxes provide 31% (\$4.1 million) and appropriated fund balance provides 8% (\$1 million) of the Town's overall revenue sources in 2007.

The figure that follows shows the percentage breakdown of all revenue sources.

Figure 4.5-5 Revenue Sources – 2007 Budget
Town of New Hartford

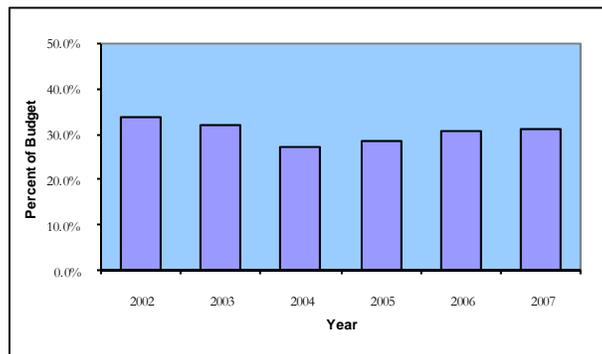


Source: Town of New Hartford

Real property taxes play a smaller role in the Town's budget than in the average town within the state. The average town in New York State generated 51% of its revenue from real property taxes, 11% from non property taxes, 12% from state aid, 3% from federal aid and 23% from all other sources during the 2002-2003 fiscal year.⁸

The figure that follows shows the role that property taxes have played in the Town's budget between 2002 and 2007.

Figure 4.5-6 Property Taxes as a Percentage of Total Town Budget (2002-2007)
Town of New Hartford



Source: Town of New Hartford

⁸ Office of New York State Comptroller, 2005 Annual Report on Local Governments

In addition to the various revenues streams that are part of the Town's budget, programs and projects within New Hartford also receive annually funding from other sources that are applied on a direct basis. Bond issues are not part of the revenue sources for the 2007 budget.

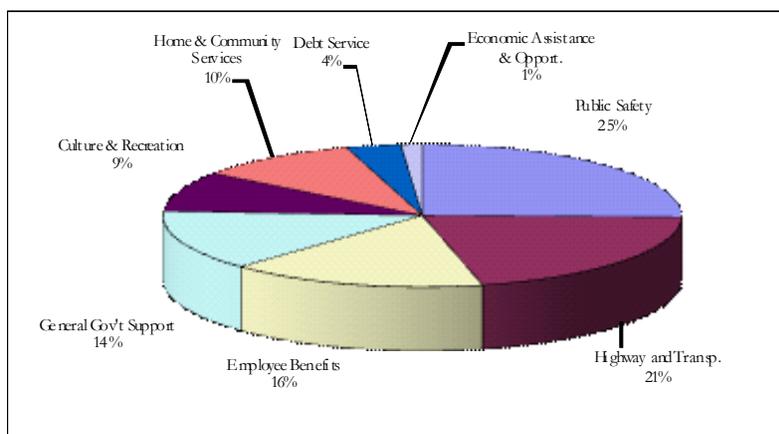
4.5.5.5 Expenditures

Public safety is the Town of New Hartford's largest expense in 2007, accounting for 25% (\$3.4 million) of the Town's budget. Highway and transportation is the Town's second largest category of expenditure, accounting for 21% (\$2.8 million) of the budget. The two other major expenditure categories in the Town's budget are employee benefits (16% or \$2.1 million) and general government support (14% or \$1.8 million).

The average town in New York State used 75% of its revenue from current operations (which includes personal services, employee benefits and contractual expenditures), 16% for capital outlay and 9% for debt service during the 2002-2003 fiscal year.⁹ Debt service accounts for 3% (\$450,000) of the Town of New Hartford's 2007 budget. Between 2002 and 2007 debt service has accounted for between 3% and 9% of the Town's expenditures.

The figure that follows shows the percentage breakdown of all expenditures in the 2007 budget.

Figure 4.5-7 Expenditures – 2007 Budget
Town of New Hartford



Source: Town of New Hartford

4.5.5.6 Existing Commercial and Industrial Development

Existing Commercial Development

Commercial activity within the Study Area is primarily located along Oneida Street in the hamlet of Chadwicks and along Oneida Street near Kellogg/Chapman Road in the hamlet of Washington Mills. Commercial property in the Study Area consists of retail sales and office spaces. Currently, approximately 490,000 sq. ft. of commercial space (based on GIS and aerial photography analysis) exist in the Study Area.

⁹ Office of New York State Comptroller, 2005 Annual Report on Local Governments

Existing Industrial Development

Industrial activity is limited in the Study Area to a manufacturing complex along Bleachery Avenue in the hamlet of Chadwicks. Approximately 42,000 sq. ft. (based on GIS and aerial photography analysis) of industrial space is located at that site.

4.5.5.7 Outside Influences Affecting Existing Economic Conditions

Several outside influences are affecting economic conditions within the Study Area. Some are regional and some are local. Regional influences include:

- An out-migration trend within upstate New York
- A population that is aging faster than the national average
- An ongoing restructuring of the regional economy, which creates jobs in some occupations but causes reductions in others
- A metro area whose total employment in 2006 was less than it was in 2001
- A county housing market that shows a decrease in the sales of existing single-family home but an increase in median sales price.

Local influences include the positive and negative impacts of having a significant retail center in the Town of New Hartford outside the Study Area.

Regional Influences

The major regional outside influence affecting existing economic conditions in the Study Area is the population out-migration from upstate New York. Upstate New York has experienced population and employment shifts since the 1980's that have resulted in a powerful trend of individuals following jobs out of the region, leading to additional declines in employment. In particular, the population of the Utica-Rome Metro Area declined by more than 5% between 1990 and 2000. Oneida County had the second largest net population loss within the State between 1990 and 2000. These population losses were partly due to the closure of Griffiss Air Force Base in 1995 and declines in manufacturing employment.

This out-migration has not been equal across all age groups. Between 1980 and 2000 upstate New York lost almost 20% of its population between 20 to 34 years of age while that age group was relatively stable nationwide. This trend has impacted the age demographic in the region. In 2000 upstate New York had a higher percentage of its population over 65 years of age and a lower percentage of younger age groups than the nation as a whole.

This out-migration trend was also apparent in the Study Area. However, the Study Area experienced a simultaneous almost 25% in-migration of population from other municipalities in the County. This out-migration – in-migration pattern indicates that despite its net decrease of population, the Study Area is a residential place of choice.

The out-migration trend also has other economic implications. The rapid increases in the elderly population, with associated increases in demands for social, medical and transportation services at a time when there is also slow growth in the working age population will result in fiscal pressures for local governments.¹⁰

¹⁰ Buffalo Branch, Federal Reserve Bank of New York, The Regional Economy of Upstate New York Winter 2005

Additionally, availability of labor, especially in high skilled occupations, will be reduced as fewer younger workers are on hand to replace retirees. Between 2010 and 2020, when the baby-boom generation begins to retire, employers in upstate New York will face the dual pressures of replacing retirees and filling new jobs created in growing segments of the economy. The pressure is expected to be greatest in service occupations such as health care, community and social services and education.¹¹

Although the total number of jobs in upstate New York was about the same in 2006 as in 1990, a significant restructuring had occurred. The service sector employment had increased significantly relative to manufacturing. Even at the national level, low-skilled manufacturing jobs have decreased while jobs in higher skilled business services sectors such as product research, design and development; marketing and distribution; finance; and data processing has increased.

In the Utica-Rome metro area, the economy has been shifting from higher wage manufacturing employment towards lower wage tourism and recreation employment. An example of which is the construction of the Turning Stone Casino in the town of Verona, NY by the Oneida Indian nation in 1993, which added over 3,000 jobs in the metro area. The New York State Department of Labor forecasts that most job openings in this area will be in the lower paying trade, entertainment and service sectors.¹²

Several factors contributed to the increase in the service sector's relative employment share. First, as previously mentioned, as the population ages there is usually an increase in the use of age related services such as health care and social services. Also, the demand for travel, tourism and other recreation and leisure services generally increases as the number of retirees increase. Second, economies like that of the United States tend to consume more services than goods, as they grow wealthier. Additionally, services provided locally and through personal contact, such as health care and travel and tourism are less subject to international competition and technological displacement.¹³

According to the Federal Reserve Bank of New York, between 2001 and 2003 this metro area experienced an 8% decrease in private-sector employment. There was some rebound in 2004 but minimal job gains were experienced in 2005 and 2006. By mid-2006 private sector employment was 7% lower than the 2001 peak period. However, government employment expanded by over 15% between 2001 and 2006. This resulted in a total employment figure that was less than 3% below the 2001 peak period.¹⁴

¹¹ Buffalo Branch, Federal Reserve Bank of New York,, Upstate New York Regional Review Volume No.1, Issue No1 2006

¹² US Department of Housing and Urban Development Office of Policy Development and Research, US Housing Market Conditions, First Quarter 2003, www.huduser.org/periodicals/ushmc/spring03/nyu.html, accessed 5-21-07

¹³ Buffalo Branch, Federal Reserve Bank of New York,, Upstate New York Regional Review Volume No.1, Issue No1 2006

¹⁴ Federal Reserve Bank of New York, District Profile-Utica-Rome Metro Area, www.ny.frb.org/regional/profile_utica.html, accessed 5/21/07

The national and regional real estate market also influences economic conditions in the Study Area. Nationally, in 2006, the level of sales for single-family homes decreased by 8% while the median sales prices remained constant according to the National Association of Realtors. Downward sales volumes were also experienced at the State and County levels. According to the New York Association of Realtors, between April 2005 and April 2007, New York State had a 13% decline in sales of existing single-family homes and a 13% increase in median selling price. During the same time period, Oneida County had a 7% decrease in the sale of existing single-family homes but a 24% increase in median selling price. Industry forecasters see the market's resistance to lower selling prices despite lower sales volume as a strong indicator that it will improve this year and into the future.

The Utica-Rome metro area has also seen an improvement in the real estate market. Home sales information obtained from the Greater Utica-Rome Board of Realtors indicate that the downward trend in the volume of home sales that was observed between 1990 and 2000 has reversed. In 2000, 203 units were sold at an average sale price of \$121,068. In 2004, 254 units were sold at an average price of \$145,780.

Local Influences

A significant local influence on economic conditions in the Town of New Hartford is the presence of a regional retail center (Sangertown Square, Consumer Square and other retail businesses along Middle Settlement Road and Commercial Drive) outside the Study Area. The existence and continued viability of this retail center provides economic benefits to the Town as a whole and thereby to the Study Area. Residents within the Study Area also receive quality of life benefits by having ready access to a major retail center. The retail center's location outside the Study Area also decreases the likelihood that there will be a need for significant commercial development within the Study Area, enabling the Study Area to maintain its current aesthetic characteristics.

5.0 Adverse Environmental Impacts that Cannot be Mitigated or Avoided

This section presents those impacts (environmental, social, and economic) that cannot be avoided or mitigated as a result of further development of the southern area of New Hartford. The GEIS anticipates impacts, and presents general discussions of impacts that appear to be unavoidable or that cannot be mitigated. However, upon actual implementation, it may be possible to avoid or mitigate these impacts. Further, the implementation of a fees in lieu of mitigation (FILM) system should reduce or prevent impacts.

5.1 Vacant and Agricultural Land

Development of the southern area of New Hartford will result in impacts that cannot be avoided or mitigated to existing vacant and agricultural. In alternatives 1 and 2, development is allowed to continue throughout the study area. This will result in a greater loss of agricultural and vacant land. At full build out, all of the land will be developed.

Alternatives 3 and 4 also impacts some vacant and agricultural land, however, development is focused in the hamlets. Less agricultural and vacant land will be developed than in the first two alternatives. At full build out, much of the agricultural land is still preserved though agricultural zoning mechanisms and the transfer of development rights.

5.2 Storm water Runoff

The southern portion of New Hartford currently experiences problems with storm water runoff during heavy rain events.

If the southern portion of New Hartford is developed under alternatives 1 and 2, it can be surmised that large tracts of land in areas outside of the hamlets will continue to be built-out as single family residences. This will continue the pattern of consumption of permeable land which in turn results in increased surface and storm water runoff further taxing an already compromised system during heavy rain events.

If development of the southern area of New Hartford progresses following the Design Plan, development will continue, however in a coordinated fashion and under controlled conditions. Alternatives 3 and 4 provides the best option with respect to continued development in that it restricts development to the hamlets and an area situated within a one-mile radius of each hamlet. Areas outside of the Design Plan growth boundary are either restricted to large lot development such that consumption of permeable surfaces will not be as great as the first two alternatives. More surface water will be absorbed through ground creating less run-off.

Since the Design Plan directs development into the Hamlets, a 50% increase of impervious surface can be expected in these areas. Because the Town is served by a MS4 stormwater system, the increased water runoff in built up areas could have a detrimental effect on the quality of water in the waterways. A coordinated plan for future development could allow for the construction of and/or improvements to storm water facilities. Knowing where and controlling when future development will occur in the southern part of Town can allow for upgrades to the storm water system such that

monies allocated are spent wisely and for areas where the system is expected to be the most overwhelmed. Recommendations of the Stormwater Committee will help allocate where the money is best spent.

5.3 Sanitary Sewer

The sanitary sewer system is nearly at capacity in the hamlet areas. Focusing new development within these areas will only add to the capacity issue. The system will have to be upgraded to handle the increased sewer flow.

5.4 Roadways and Highways

Further and continued development of the southern area of New Hartford will result in an increase in traffic volume on existing community streets, arterials, and collector roads. Traffic will increase as residential development continues. This is anticipated primarily outside of and between Washington Mills and Chadwicks, which, under current conditions and existing zoning allows development of larger tracts of land located in areas that are remote to commercial centers and amenities.

Four Alternatives for future growth in the Town of New Hartford were assessed for their impact on the existing transportation system. Alternative 1, which assumes development based on current zoning, and Alternative 2 will result in 2.6 times as much traffic as currently exists in the study area. This will cause major capacity issues at all signalized intersections and numerous unsignalized intersections. Alternatives 3 and 4, which focus development in the hamlet areas, will result in 1.9 times as much traffic as currently exists in the study area. This amount of traffic will cause noticeable delays to travel, but not as significant as those under the first two alternatives. Within the next 20 years, traffic volumes are forecast to increase by 20 percent. This increase will not cause any significant change over current conditions.

Although mitigation of an increase in volume on existing roadways is achievable via improvements and upgrades, it is also a remedy that becomes self-prophesying. In other words, increasing the capacity of roadways usually results in creating more traffic on the roads than previously experienced simply as a result of the improvements and upgrades. People tend to utilize roads and highways that have been upgraded when otherwise if left to become congested, remain unattractive to users and thus not a travel route of choice.

6.0 Irreversible & Irretrievable Commitment of Environmental Resources

6.1 Natural Resources Consumed, Converted, or Made Unavailable for Future Use

Some areas of existing undeveloped land will be committed to development of residences, roads, and landscaped areas. Some existing soils will be altered and replaced with paving. Some wildlife habitat, as it may exist in areas outside of the hamlets, will be irretrievably lost or altered. The existing natural resources which could be made unavailable for future use include agricultural land, forested areas, streams, and wetland areas.

6.2 Manmade Resources Consumed, Converted or Made Unavailable for Future Use

Resources consumed during development of the southern part of New Hartford, include fossil fuels and construction materials. These will be committed for the life of the continued development of New Hartford. Non-renewable fossil fuels will be irretrievably lost through the use of gasoline and diesel powered construction equipment during construction. Development of the site will generate an increased demand for electricity and natural gas. Increased commitments will be made for the use of municipal water, sanitary sewage disposal, solid waste disposal and municipal services such as police and fire protection. Commitments will also be made for the use of renewable and/or recyclable resources such as construction and building materials including timber, steel, concrete, and glass. The need for construction jobs and related service-oriented industries will be an irretrievable commitment of labor resources.

6.3 Cumulative Impacts

Continued development of the southern part of New Hartford in conjunction with continued development in other parts of the Town, specifically the French Road and Commercial Drive areas, will result in a series of potential cumulative impacts to natural resources including water quality, aquatic and land habitat and wetland integrity. Cumulative impacts to the built environment include existing roadways and highways that facilitate traffic in and around New Hartford; and existing infrastructure, specifically the Sauquoit Creek Pumping Station, will further result from development of the southern area of New Hartford. However, with respect to the pump station, the complete abatement of the overflow is scheduled for 2014 and therefore at that time it is no longer a cumulative impact. Increase in community density and subsequent demands to public services including police and fire service will result from continued development of the southern area of New Hartford.

Natural resources will be affected by continuous development through removal of existing vacant fielded and treed areas that serve as habitat for wildlife. Fielded areas also provide necessary feed for animals. Loss of vegetation can be minimized through careful landscaping that utilizes existing ground cover and tree growth. Excessive stripping of forested areas should be prevented or

minimized through implementation of the three growth alternatives incorporating a coordinated and planned development pattern.

Roadways including the Route 8 Arterial and interior collector roads such as Oneida and Oxford Roads will experience an increase in traffic load from continued development of the southern area of New Hartford. Outlying Route 12 will also experience an increase in traffic load from continued development of the southern area in concert with development that is occurring in the French Road and Commercial Drive areas.

Increased density in the hamlets of Washington Mills and Chadwicks will result in a corresponding demand on existing community services including police and fire protection. These impacts will vary according to how the southern area gets built out over the length of time that available land allows.

7.0 Growth-inducing Aspects of Proposed Action

The continued development of the southern area of New Hartford will result in an increase in density primarily in the hamlets of Washington Mills and Chadwicks. This is anticipated as a result of implementation of the Design Plan. This increase in density has the potential for exhibiting a need for expansion or creation of commercial facilities to service the community. Existing commercial and business operations will prosper from density increases in the community which will correspondingly result in boosting the economic health of New Hartford.

New business and commercial development can be expected from the continued growth of the southern area. Business and commercial establishments will be attracted by the growth of the community and want to capitalize on the overall growth of the area, inclusive of the other parts of New Hartford outside of the southern area. If large undeveloped tracts of land are available, in-fill development will be encouraged and guided by the Design Plan. In-fill development is anticipated in areas where commercial development is presently concentrated, specifically along the commercial corridor in Washington Mills. Further, in these same areas, pocket development will be encouraged and will be situated immediately adjacent to the existing road to help establish a village-like atmosphere in the hamlets, and to capitalize on the wide swaths of parking areas of existing commercial areas. In Chadwicks, where commercial development is presently situated intermingled with residential areas, any potential for redevelopment of existing commercial establishments and/or in-fill development in connection with residential (on ground level) will be encouraged and promoted per the Design Plan.

8.0 Appendix

8.1 Funding Sources

Funding sources identified in this section are applicable to a range of projects including community development, industrial and commercial development and historic preservation. Grants, loans and loan/grant combinations are included. The matrix below lists potential sources for funding and technical assistance to support implementation of projects in the Southern Area of New Hartford, both those generated by the EIS and others. This list should be considered advisory in character. While every effort has been made to ensure these sources are up-to-date, funding opportunities and strategies can change and the priorities of grant providers can change. Where available, web addresses are included for additional research.

**Table 8.1-1 Funding Sources
Community Development**

<i>Program</i>	<i>Sponsor</i>	<i>Funded Activities</i>	<i>Funding amounts (if known)</i>	<i>Match required?</i>	<i>Site</i>	<i>Source</i>	<i>Notes</i>
New Hartford Community Enrichment Foundation	Independent Board	N/A	N/A	N/A	N/A	N/A	Start-up foundation designed to be a New Hartford Community asset. More information should be available from the Town Supervisor's office in 2006-2007
Community Decision Making Programs	Orton Family Foundation	Community Viz software, community mapping, planning programs, video programs	Costs to participants involved for programs and materials but costs can be underwritten		orton.org	Operating profits of the Vermont Country Store	Focus of Foundation is managing change and preserving the way of life in rural, small-town America

Special Districts and Zones

<i>Program</i>	<i>Sponsor</i>	<i>Funded Activities</i>	<i>Funding amounts (if known)</i>	<i>Match required?</i>	<i>Site</i>	<i>Source</i>	<i>Notes</i>
New York State Empire Zones	NYS Empire State Development Corp.	Sales, real property, investment, personal and corporate income tax breaks, reduced utility rates, tax credits	Employment-based incentive program; no direct grants	No	nylovesbiz.com	State	Existing Zones located in Herkimer, Rome and Utica
Business Improvement Districts also known as Special Assessment Districts	Local municipalities	Self taxing mechanism for identified community and economic revitalization activities	Varies	No	N/A	Property owners within designated district	
Tax Increment Finance District	Local taxing authorities	Public improvements	Varies	No	N/A	Increased tax revenues resulting from public improvements	Rarely used in New York State, problematic

Loan, Loan Guarantees, and Tax Credits

<i>Program</i>	<i>Sponsor</i>	<i>Funded Activities</i>	<i>Funding amounts (if known)</i>	<i>Match required?</i>	<i>Site</i>	<i>Source</i>	<i>Notes</i>
Job Development Loan Fund	Mohawk Valley EDGE	Purchase and improvements to fixed assets and working capital	Up to 35% of project cost, minimum \$25,000, maximum \$250,000. Bank financing for at least 50% of total project cost	10% cash equity borrower contribution	mvedge.org	Various	Interest rate is 85% of the current prime rate fixed at closing for the life of the loan
Micro-Enterprise Assistance Program	Mohawk Valley EDGE	Creation or retention of jobs for low or moderate income persons as defined by New York State and U.S. Department of Housing & Urban Development Small Cities Program guidelines	Up to 40% of the total project cost, with a minimum loan of \$2,500 and a maximum loan of \$25,000	10% owner cash equity required	mvedge.org	NYS Small Cities Grant	4% interest rate for the life of the loan
Linked Deposit Program	New York State Banking Department	Subsidizes interest rates on bank loans for businesses	Varies	No	banking.state.ny.us	New York State	Service businesses ineligible; retail businesses ineligible unless located in an Empire Zone

<i>Program</i>	<i>Sponsor</i>	<i>Funded Activities</i>	<i>Funding amounts (if known)</i>	<i>Match required?</i>	<i>Site</i>	<i>Source</i>	<i>Notes</i>
Historic Preservation Tax Credits	National Park Service	Rehabilitation and renovation of income-producing properties listed on the National Register of Historic Places or contributing to a National Register District	N/A	N/A	nps.gov	US	Projects of scale with ineligible owners can syndicate and sell shares in the credit to eligible investors
Section 444-a of Real Property Tax Law	NYS	Provides for a partial exemption on the increased assessment resulting from rehabilitation of listed or district contributing properties	N/A	N/A	orps.state.ny.us	Taxing jurisdictions	Measure must be authorized by counties, towns, cities and villages; school boards may do so by resolution
Small Business Technology Investment Fund	New York State	Investment Tax Credit, R&D Tax Credit, Sales Tax exemptions, property tax abatement			tax.state.ny.us		

<i>Program</i>	<i>Sponsor</i>	<i>Funded Activities</i>	<i>Funding amounts (if known)</i>	<i>Match required?</i>	<i>Site</i>	<i>Source</i>	<i>Notes</i>
Tax Credits, Exemptions, Abatement	New York State Banking Department	Equity for working capital for high tech start-ups	\$50,000 to \$500,000		banking.state.ny.us	Fund Pool	Process begins with submission of business plan
New York State Brownfields Tax Credits	New York State	Three separate tax credits available: 1. Redevelopment credit, 2. Remediated brownfield credit for property taxes, and 3. Environmental remediation insurance credit	N/A	N/A	nylovesbiz.com	Environmental Conservation Law	Tax credits are enhanced within designated "en-zone;" one eligible site is in Hornell
SBA 504 Loan Program	Mohawk Valley Small Business Development Center SUNY IT	Loans up to 40% for acquisition and renovation of capital assets	Up to \$1.3 million		sba.gov	Small Business Administration	Soft costs can be included; Job Development Authority SBA 504 combo is typical
SBA 7A Loan Guarantees	Mohawk Valley Small Business Development Center SUNY IT	Loans guarantees for small businesses	Up to \$2 million		sba.gov	Loan packaging	Market rates

Grants – Economic Revitalization

<i>Program</i>	<i>Sponsor</i>	<i>Funded Activities</i>	<i>Funding amounts (if known)</i>	<i>Match required?</i>	<i>Site</i>	<i>Source</i>	<i>Notes</i>
Community Development Block Grants	NYS Governor's Office of Small Cities	Open Round for Economic revitalization	Maximum grant in 2004 is \$750,000; minimum is \$100,000; maximum grant amount per FTE job created is \$7,500		nysmallcities.com	US Housing and Urban Development	Cities, towns and villages with a population of under 50,000 eligible as are counties with unincorporated population under 200,000
Community Development Block Grants	NYS Governor's Office of Small Cities	Comprehensive grants addressing one community problem comprehensively	Maximum grant in 2004 is \$650,000		nysmallcities.com	US Housing and Urban Development	Cities, towns and villages with a population of under 50,000 eligible as are counties with unincorporated population under 200,000

<i>Program</i>	<i>Sponsor</i>	<i>Funded Activities</i>	<i>Funding amounts (if known)</i>	<i>Match required?</i>	<i>Site</i>	<i>Source</i>	<i>Notes</i>
US Economic Revitalization Administration	US Department of Commerce	Planning and technical assistance, public works and job development, economic adjustment	Varies	Varies	eda.gov	Federal appropriations, some cross-agency appropriations	Most projects directed to areas of severe economic distress; communities and regions need Comprehensive Economic Development Strategies (CEDs); locally administered by the Mohawk Valley Economic Development District

<i>Program</i>	<i>Sponsor</i>	<i>Funded Activities</i>	<i>Funding amounts (if known)</i>	<i>Match required?</i>	<i>Site</i>	<i>Source</i>	<i>Notes</i>
USDA Rural Development Programs	USDA	Guaranteed Loan Program, Intermediary Relending Program, Business Enterprise and Business Opportunity and others	Varies, seek assistance from USDA technical staff	Depends on program	ruddev.usda.gov	USDA	Rural Empowerment Zone, Enterprise Communities and Champion Communities score extra in competitive funding rounds – local office located in Syracuse
Empire Opportunity Fund	New York State Empire State Development Corp.	Non-residential, job-generating projects of scale	25% of eligible costs for projects over \$500,000	No	nylovesbiz.com	New York State	Projects should be consistent with state and regional plans in place and should relate to economic revitalization policy

<i>Program</i>	<i>Sponsor</i>	<i>Funded Activities</i>	<i>Funding amounts (if known)</i>	<i>Match required?</i>	<i>Site</i>	<i>Source</i>	<i>Notes</i>
Tax Exempt Financing	Oneida County IDA	Manufacturing, other eligible projects through industrial development revenue bonds	\$2 million or more		mvedge.org		Also: sale-leaseback agreements for exemption from NYS sales and use tax on construction materials, from mortgage filing tax, for reductions in real property taxes through PILOT Agreements.

Grants – Preservation

<i>Program</i>	<i>Sponsor</i>	<i>Funded Activities</i>	<i>Funding amounts (if known)</i>	<i>Match required?</i>	<i>Site</i>	<i>Source</i>	<i>Notes</i>
Property Tax Abatements	NYS Office of Parks, Recreation & Historic Preservation	Rehabilitation	N/A	N/A	nysparks.state.ny.us	Communities	Two programs, one for barns, another for other structures can be adopted by communities to provide tax abatement for rehabilitation projects
Architecture Planning and Design Grants	NYS Council on the Arts	Planning and community design	UNK		nysca.org		Funds a wide variety of programs in urban design, community development and preservation

Grants – Environment, Transportation

<i>Program</i>	<i>Sponsor</i>	<i>Funded Activities</i>	<i>Funding amounts (if known)</i>	<i>Match required?</i>	<i>Site</i>	<i>Source</i>	<i>Notes</i>
Transportation Enhancement for the 21st Century	NYS Department of Transportation	Various		Yes	nys.dot.state.ny.us	Federal Transportation Appropriation	Various planning efforts
Scenic Byways Program	NYS Department of Transportation	Development and designation of Scenic Byways	N/A	N/A	nys.dot.state.ny.us		Tourism and economic revitalization focus
Clean Water programs	NYS Department of Environmental Conservation	Water quality restoration, storm and waste water management, etc.	Varies depending on program		nys.dec.state.ny.us	Various	Grant sources, applicability and sources depending on funding round
Clean Water Revolving Fund	NYS Environmental Facilities Corp.	Water quality restoration	Low- and no-interest loans		nysefc.org	Revolving funds, bond issues	Various programs for municipalities
NYS Environmental Protection Fund	NYSDEC	Open space protection, pollution prevention, parks, recreation, historic preservation, local waterfront programs, etc.	Varies	Yes usually	dec.state.ny.us/	NYS Legislature mandates a portion of the real estate transfer tax be dedicated to these uses	2006-07 funding for this program was \$180 million

<i>Program</i>	<i>Sponsor</i>	<i>Funded Activities</i>	<i>Funding amounts (if known)</i>	<i>Match required?</i>	<i>Site</i>	<i>Source</i>	<i>Notes</i>
NYS Recreational Trails Program	NYState DOT	Development and maintenance of recreational trails	\$5,000-\$100,000	80:20:00	www.nysparks.com/grants/	Federal SAFETEA-LU funding distributed through States	Program designed to help communities develop non-motorized transportation alternatives
USDA Rural Development Programs	USDA	Loans, grants, loan/grant combinations, loan guarantees for storm and waste water disposal and solid waste management	Varies depending on program		rurdev.usda.gov	USDA	Generally limited to communities under 10,000 population; technical assistance included

<i>Program</i>	<i>Sponsor</i>	<i>Funded Activities</i>	<i>Funding amounts (if known)</i>	<i>Match required?</i>	<i>Site</i>	<i>Source</i>	<i>Notes</i>
US Army Corps of Engineers	Most projects originate in Congressional Delegation	Shore protection, flood control, ecosystem restoration, recreation, navigable waterway improvements, community facilities, etc.	Varies	Depends on project; some programs have cost sharing requirements	usace.army.mil	Federal appropriation	Most projects commence with a reconnaissance report, followed by a feasibility analysis; local office located at Federal Plaza in Manhattan
US EPA Small Grants Program	EPA	Local community-based organizations to examine issues related to exposure to environmental harm and risk	Up to \$25,000		epa.gov	Federal appropriation	Research projects funded with the intention of dissemination to community

<i>Program</i>	<i>Sponsor</i>	<i>Funded Activities</i>	<i>Funding amounts (if known)</i>	<i>Match required?</i>	<i>Site</i>	<i>Source</i>	<i>Notes</i>
USDA Rural Development Programs	USDA	Loans, grants, loan/grant combinations, loan guarantees for a variety of housing initiatives including ownership, rental, purchase and repair	Varies, seek assistance from USDA technical staff	Depends on program	urdev.usda.gov	USDA	Local office located in Syracuse
Non-point Source Abatement and Control Grants	NYS Soil & Water Conservation Service	Plan, activities and projects to reduce or prevent agricultural non-point source pollution		25%	agmkt.state.ny.us	Environmental Protection Fund	Project sponsors must be Soil and Water Conservation Districts singly or in cooperation with one another
Watershed Action Grants	Conservation Fund	Watershed protection, improvement, promotion of watershed stewardship	\$5,000 average	Not required	conservationfund.org	Conservation Fund	Match not required but leverage with other sources encouraged; program must take place in a year

<i>Program</i>	<i>Sponsor</i>	<i>Funded Activities</i>	<i>Funding amounts (if known)</i>	<i>Match required?</i>	<i>Site</i>	<i>Source</i>	<i>Notes</i>
Banrock Station Wines Wetland Conservation Fund	Banrock Station Wines	Educate, inspire action, create partnerships for wetlands conservation and restoration	\$1,000-\$5,000		conservationfund.org	Conservation Fund with corporate sponsor	Program inaugurated in 2003
Community Development Block Grants	NYS Governor's Office of Small Cities	Competitive round for housing, public facilities and microenterprise	\$400,000; for towns, villages and cities; \$600,000 for counties and joint applications		nysmallcities.com	US Housing and Urban Development	Cities, towns and villages with a population of under 50,000 eligible as are counties with an unincorporated population under 200,000

<i>Program</i>	<i>Sponsor</i>	<i>Funded Activities</i>	<i>Funding amounts (if known)</i>	<i>Match required?</i>	<i>Site</i>	<i>Source</i>	<i>Notes</i>
Green Building Initiative	Kresge Foundation	Planning for construction of environmentally sustainable new facilities, including development and evaluation of building plan, site evaluation, material analysis, etc.	\$50,000-\$100,000	Cash, staff and board time, institutional resources as required	kresge.org	Endowed family foundation	Workshops on green building concepts and methods offered by the Nonprofit Finance Fund
Kodak American Greenways Awards	Eastman Kodak Co.	Provides grants for planning and design of greenways	Up to \$2,500; most grants are \$500 to \$1,500		conservationfund.org	Conservation Fund and Corporate Endowment	Finger Lakes Trail Conference was a grant recipient in 1999

Agriculture/Farm Land Protection

<i>Program</i>	<i>Sponsor</i>	<i>Funded Activities</i>	<i>Funding amounts (if known)</i>	<i>Match required?</i>	<i>Site</i>	<i>Source</i>	<i>Notes</i>
NYS Agriculture & Markets Grow NY Enterprise Program	Governor's Office for Small Cities	Loans and loan-grant combinations for development and expansion of agriculture and agribusiness			agmkt.state.ny.us	GOSC, Ag & Markets, ESDC	Limited to projects in Small Cities-eligible communities
State Assistance for Farmland Protection	Agriculture & Markets	Purchase of development rights for agricultural and farmland			agmkt.state.ny.us	Environmental Protection Fund	Applicant communities must have adopted a farmland protection plan, open space plan addressing farmland protection or other similar plan
Cooperative promotion program	Agriculture & Markets	Promotion and marketing of NYS agricultural products	Up to \$15,000	2:01	agmkt.state.ny.us	Ag & Markets	Applicants must be Pride of NY participants or must apply to program at time of grant application

<i>Program</i>	<i>Sponsor</i>	<i>Funded Activities</i>	<i>Funding amounts (if known)</i>	<i>Match required?</i>	<i>Site</i>	<i>Source</i>	<i>Notes</i>
Industry development projects	Agriculture & Markets	A Grow NY program for R&D, production, processing, etc., alternatives and technology innovations	\$60,000 cap	1:01	agmkt.state.ny.us	Ag & Markets	Programs of one year or less are encouraged
Farmers Market Grants	Agriculture & Markets	Construction, reconstruction, improvement, expansion or rehabilitation of farmers markets	\$50,000 cap	1:01	agmkt.state.ny.us	Ag & Markets	Must involve physical improvements; feasibility analyses are not eligible

Miscellaneous

<i>Program</i>	<i>Sponsor</i>	<i>Funded Activities</i>	<i>Funding amounts (if known)</i>	<i>Match required?</i>	<i>Site</i>	<i>Source</i>	<i>Notes</i>
NYS Department of Transportation Environmental Initiative	NYS	Policy initiative by NYSDOT to advance state and federal environmental policies	No direct funding -- internal policy directive		dot.state.ny.us/eab/envinit		Policy directs DOT to incorporate context-sensitive design, local projects, environmental enhancement and restoration, public input, etc. into its projects
Bricks and Mortar Challenge Grants	Kresge Foundation	Construction or renovation of facilities, major equipment including computers of at least \$300,000, real estate purchase	Varies, \$150,000 to \$600,000 depending on the campaign	Yes, Kresge is usually a fifth to a third of campaign total	kresge.org	Endowed family foundation	Program is designed to build facilities and encourage private giving. Also, see Green Building Initiative, above

<i>Program</i>	<i>Sponsor</i>	<i>Funded Activities</i>	<i>Funding amounts (if known)</i>	<i>Match required?</i>	<i>Site</i>	<i>Source</i>	<i>Notes</i>
Skateboard parks	Tony Hawk Foundation	Provides grants for construction of public skateboard parks in low-income areas throughout the United States.	\$1,000 to \$25,000		tonyhawkfoundation.org	Corporate program	Most grants are \$1,000; technical assistance available

8.2 NYSDOH Table 1 of Appendix 5-B

Section 5-B.7 Separability.

If any provisions of this Appendix are held invalid, such invalidity shall not affect other provisions which can be given effect without the invalid provisions.

**Table 1
Required Minimum Separation Distances to Protect Water Wells From Contamination**

Contaminant Source	Distance (Feet) ¹
Chemical storage sites not protected from the elements (e.g., salt and sand/salt storage) ²	300
Landfill waste disposal area, or hazardous or radiological waste disposal area ²	300
Land surface application or subsurface injection of effluent or digested sludge from a Municipal or public wastewater treatment facility	200
Land surface application or subsurface injection of septage waste	200
Land surface spreading or subsurface injection of liquid or solid manure ³	200
Storage Areas for Manure piles ⁴	200
Barnyard, silo, barn gutters and animal pens ^{5, 6}	100
Cesspools (i.e. pits with no septic tank pretreatment)	200
Wastewater treatment absorption systems located in coarse gravel or in the Direct path of drainage to a well	200
Fertilizer and/or pesticide mixing and/or clean up areas	150
Seepage pit (following septic tank) ⁵	150
Underground single walled chemical or petroleum storage vessels	150
Absorption field or bed ⁵	100
Contained chemical storage sites protected from the elements (e.g. salt and sand/salt storage within covered structures) ⁷	100
Septic system components (non-watertight) ⁵	100
Intermittent sand filter without a watertight liner ⁵	100
Sanitary Privy pit ⁵	100
Surface wastewater recharge absorption system constructed to discharge storm water from parking lots, roadways or driveways ⁵	100
Cemeteries	100
Sanitary privy with a watertight vault	50
Septic tank, aerobic unit, watertight effluent line to distribution box	50
Sanitary sewer or combined sewer	50
Surface water recharge absorption system with no automotive-related Wastes (e.g., clear-water basin, clear-water dry well)	50
Stream, lake, watercourse, drainage ditch, or wetland	25
All known sources of contamination otherwise not shown above	100

Notes for Table 1:

- created by these items, except with such additional measures (e.g., sentinel groundwater monitoring, hydraulic containment, source water treatment) as needed to prevent contamination.
- Based upon on-site evaluations of agricultural properties done per agricultural environmental management (AEM) or comprehensive nutrient management plan (CNMP) programs by a certified nutrient management planner or soil and water conservation district (SWCD) official, water wells may be located a minimum of 100 feet from areas subject to land spreading of manure.
 - Water wells may be located 100 feet from temporary (30 days or less) manure piles/staging areas that are controlled to preclude contamination of surface or groundwater or 100 feet from otherwise managed manure piles that are controlled pursuant to regulation in a manner that prevents contamination of surface or groundwater.
 - When these contamination sources are located in coarse gravel or are located updrift and in the direct path of drainage to a water well, the water well shall be located at least 200 feet away from the closest part of these sources.
 - Animal pen does not include small pet shelters or kennels housing 3 or fewer adult pets.
 - Chemical storage sites as used in this entry do not include properly maintained storage areas of chemicals used for water treatment nor areas of household quantities of commonly used domestic chemicals.

8.3 NYSDOH Fact Sheet #3 - Individual Water Supply Wells

Recommended Residential Water Quality Testing

Water quality testing is important for new drinking water wells in addition to periodic evaluation of existing wells. The table below lists the recommended testing parameters for new individual residential water supply wells. These tests should be performed following proper well installation and development, and prior to homeowner use. Beyond these initial tests it is recommended to test for coliform bacteria every year and to periodically re-test water quality for other well-specific constituents of concern.

All samples should be analyzed by a laboratory certified by the NYSDOH Environmental Laboratory Approval Program (ELAP) for testing potable water. A current listing of ELAP laboratories may be accessed at <http://www.wadsworth.org/labcert/elap/elap.html> or by contacting your Local Health Department (LHD).

Analysis *	Recommended MCL ⁽¹⁾⁽²⁾	Concerns
Coliform Bacteria	Any positive result is unsatisfactory	Indicator of possible disease causing contamination, e.g. Gastro-intestinal illness
Lead	0.015 mg/l	Brain, nerve and kidney damage (especially in children)
Nitrate	10 mg/l as N	Methemoglobinemia ("blue baby syndrome")
Nitrite	1 mg/l as N	Methemoglobinemia ("blue baby syndrome")
Iron	0.3 mg/l	Rust-colored staining of fixtures or clothes
Manganese	0.3 mg/l	Black staining of fixtures or clothes
Iron plus manganese	0.5 mg/l	Rusty or black staining of fixtures or clothes
Sodium	No designated limit ⁽³⁾	Effects on individuals with high blood pressure
pH	No designated limit	Pipe corrosion (lead and copper), metallic-bitter taste
Hardness	No designated limit	Mineral and soap deposits, detergents are less effective
Alkalinity	No designated limit	Inhibits chlorine effectiveness, metallic-bitter taste
Turbidity	5 NTU	Cloudy, "piggybacking" of contaminants, interferes with chlorine and UV-light disinfection

1. MCL means maximum contaminant level. The MCLs listed are based upon requirements for Public Water Supply systems and are also recommended for use on individual residential systems.
 2. mg/l means milligram per liter (parts per million); NTU means Nephelometric Turbidity Units.
 3. Water containing more than 20 mg/l of sodium should not be used for drinking by people on severely restricted sodium diets. Water containing more than 270 mg/l of sodium should not be used by people on moderately restricted sodium diets.

*Individual Residential Well Water Supply Quality Testing/HUD Mortgage Requirements (July 27,1995)

Additional tests are recommended for naturally occurring constituents that appear on a regional basis such as: arsenic, barium, fluoride, methane, radium, radon, and uranium. Additional tests may also be appropriate for contaminants associated with potential sources such as: oil storage facilities, junkyards, gasoline stations, landfills, industry, and active or historic agricultural use. Water samples from older existing residences or residences with corrosive water (i.e., pH less than 6.5) should be tested for lead and copper.

Some LHD's may have their own residential water quality testing requirements. Contact the LHD to determine their required analyses and procedures, and to inquire about any local water quality concerns.

The table below, **Reasons to test your Water**, is based upon the United States Environmental Protection Agency's (USEPA) publication: "Drinking Water from Household Wells", January 2002.

This table may also be used as a reference for determining additional testing.

Conditions or Nearby Activities:	Test for:
Recurring gastro-intestinal illness ¹	Coliform bacteria, e-coli
Household plumbing contains lead (older homes)	pH, lead, copper
Radon in indoor air or region is radon rich	Radon
Corrosion of pipes, plumbing	pH, lead, copper
Nearby areas of intensive agriculture	Nitrate, pesticides, arsenic, coliform bacteria
Coal or other mining operations nearby	Metals, pH
Gas drilling operations nearby	Sodium, chloride, barium, strontium
Dump, junkyard, landfill, factory, gas station, or dry-cleaning operation nearby	Volatile organic compounds, total dissolved solids, pH, sulfate, chloride, metals
Odor of gasoline or fuel oil, and near gas station or buried fuel tanks	Volatile organic compounds
Objectionable taste or smell	Hydrogen sulfide, pH, metals
Stained plumbing fixtures, toilet tanks or laundry	Iron, copper, manganese, hardness
Salty taste and seawater, or a heavily salted roadway nearby	Sodium, chloride, total dissolved solids
Scaly residues, soaps don't lather	Hardness
Rapid wear of water treatment equipment	pH
Water softener needed to treat hardness	Hardness, manganese, iron
Water appears cloudy, frothy, or colored	Color, detergents, turbidity, total dissolved solids
Reddish-brown films on fixtures or toilet tanks	Iron bacteria, iron, manganese

¹ Individuals with symptoms of gastro-intestinal illness should seek the attention of a medical physician.

Sampling and Treatment

Sampling for lead and coliform may give false results if sampling is not done properly. Please contact your Local Health Department for guidance on sampling and interpreting results.

If testing shows any level above the recommended MCL, a new water source and/or treatment may be necessary. Please contact your Local Health Department for guidance.

Other sources of information that may be helpful include websites for the following:

- American Groundwater Trust
- American Water Works Association
- Water Systems Council
- Wellowner
- United States Environmental Protection Agency
- New York Rural Water Association

For questions concerning this Fact Sheet or a copy of Appendix 5-B:

Contact the Oneida County Department of Health Local or Residential Sanitation Section Bureau of Water Supply Protection, New York State Department of Health, (518) 402-7650 or FAX (518) 402-7659 and E-mail: bpwsp@health.state.ny.us

8.4 Hartgen Archeological Associates Bibliography

Beers, D.G.

1874 *Atlas of Oneida County, New York*. D.G. Beers and Company, Philadelphia, Pennsylvania.

Brasser, Ted

1978 Mahican. In *Northeast*, edited by Bruce G. Trigger. Handbook of North American Indians, Vol. 15, W.C. Sturtevant, general editor, Smithsonian Institution, Washington, D.C.

Burr, David

1829 Map of the county of Oneida. In *An Atlas of the State of New York Containing a Map of the State and of the Several Counties*. David Burr, New York.

Cookingham, Laura Day

1997 "The Romantic History of New Hartford." Originally written c. 1930. Monograph edited by New Hartford Historical Society. New Hartford Historical Society, New Hartford, New York.

Couture, Barbara Owens

2004 *Farmlands of New Hartford*. New Hartford Historical Society, New Hartford, New York.

Covens, Mortier, and Covens, Jr.

1780 A Chorographical Map of the Northern Department of North America. N.P., n.p.

DeWitt, Simeon

1790 Map of the Head Waters of the Rivers Susquehanna and Delaware Embracing the Early Patents on the South Side of the Mohawk River. N.P., n.p.

Dincauze, D.F.

1971 An Archaic Sequence for Southern New England. *American Antiquity* 36(2):194-198.

1976 *The Neville Site: 8000 Years at Amoskeag*. Peabody Museum Monograph Number 40. Peabody Museum, Cambridge, Massachusetts.

Edwards, Evelyn R.

2000 *Images of America: The Sauquoit Valley*. Arcadia Publishing, Charleston, South Carolina.

Eisenberg, Leonard

1978 *Paleo-Indian Settlement Patterns in the Hudson and Delaware River Drainages*. Occasional Publications in Northeastern Anthropology #4. Rindge, New Hampshire.

Fisher, Donald W., Yngvar W. Isachsen, and Lawrence V. Rickard

1970 *Geologic Map of New York, Hudson-Mohawk Sheet*. Reprinted 1995. New York State Museum and Science Service, Map and Chart Series No. 15. The University of the State of New York, The State Education Department, Albany, New York.

French, J.H.

1858 *Gillette's Map of Oneida County, New York*. John E. Gillette, Philadelphia, Pennsylvania.

Funk, Robert E.

1976 *Recent Contributions to Hudson Valley Prehistory*. Memoir 22. New York State Museum, Albany, New York.

1993 *Archaeological Investigations in the Upper Susquehanna Valley, New York State*. University of the State of New York, State Education Department, Albany, New York.

Hartgen Archeological Associates, Inc. (HAA, Inc.)

2000 Phase IB Archeological Field Investigation, Bleachery Avenue Bridge Replacement, BIN 2205900, Town of New Hartford, Oneida County, New York. On file at OPRHP, Waterford, New York.

Kelly, R.L.

1983 Hunter-Gatherer Mobility Strategies. *Journal of Anthropological Research* 39:277-306.

Kessler, Glenn Daniel, Reverend

1998 Roadside Historical Markers Around Oneida County. N.P., n.p.

Kricher, John, and Gordon Morrison

1998 *A Field Guide to Eastern Forests, North America*. Rev. ed. Originally published 1988. Houghton Mifflin Company, New York.

Küchler, August W.

1964 Potential Natural Vegetation of the Conterminous United States. American Geological Society, New York.

Moeller, Roger W.

1996 Some Thoughts on Late Woodland Ecology. *Journal of Middle Atlantic Archaeology* 12:61-66.

New Hartford

1970 New Hartford, N.Y. Centennial, 1870-1970. N.P., n.p.

New York Archaeological Council (NYAC)

1994 Standards for Cultural Resource Investigations and the Curation of Archaeological Collections in New York State. NYAC, n.p.

New York GenWeb

2007 Cemetery Listings for Oneida County. www.rootsweb.org/~nyoneida/cemeteries. 18 January 2007.

New York State Museum, Department of Anthropology (NYSM)

1981a Report on an Archaeological Reconnaissance Survey in the Town of New Hartford, Oneida County, N.Y., PIN 2750.62. On file at OPRHP, Waterford, New York.

1981b Report on an Archaeological Reconnaissance Survey of the Oneida Street Bridge, New Hartford, New York BIN 2255.310.

- New York State Office of Preservation, Recreation and Historic Preservation (OPRHP)
- 2005 Phase I Archaeological Report Format Requirements. OPRHP, Albany, New York.
- Parker, Arthur C.
- 1920 *The Archeological History of New York*. New York State Museum Bulletin Nos. 237, 238. The University of the State of New York, New York State Museum, Albany, New York.
- Pratt and Pratt Archaeological Consultants, Inc. (Pratt and Pratt)
- 2005 Phase I Cultural resource Survey, Higby Road Water District, Town of New Hartford, Oneida County, and Town of Frankfort, Herkimer County, New York. On file at OPRHP, Waterford, New York.
- Public Archaeology Facility, State University of New York at Binghamton (PAF)
- 2000 Report of Field Reconnaissance, Stage 1 Cultural Resource Survey, Collins Knoll Farm Project, Town of New Hartford, Oneida County, New York, MCD 06515, 00PR1577. On file at OPRHP, Waterford, New York.
- Ritchie, William A.
- 1969 *The Archeology of New York State*. The Natural History Press, Garden City, New York.
- Ritchie, William A. and Robert E. Funk (Ritchie and Funk)
- 1973 *Aboriginal Settlement Patterns in the Northeast*. New York State Museum and Science Service Memoir 20. New York State Museum, Albany, New York.
- Rogerson, A.E. and E.J. Murphy
- 1852 *Map of Oneida County, New York*. Newell S. Brown, Philadelphia, Pennsylvania.
- Salwen, Bert
- 1975 Post-glacial Environments and Culture Change in the Hudson River Basin. *Man in the Northeast* 10:43-70.
- Sauthier, Claude Joseph
- 1779 A Chorographical Map of the Province of New York in North America. William Faden, London.
- Sloan, Cain K.
- 1977 New Hartford. In *The History of Oneida County commemorating the bicentennial of our national independence*. Oneida County, Utica, New York.
- Smith, George H.
- 1955 *Rambling Tale of a Rambling Town, Written Expressly for the New Hartford Central School*. Transcribed from the original typed manuscript 1998. New Hartford Historical Society, New Hartford, New York.
- Tuck, James A.
- 1974 Early Archaic Horizons in Eastern North America. *Archaeology of Eastern North America* 2(1):72-80.

United States Geological Survey (USGS)

1895 *Oriskany 15' Topographic Quadrangle, New York*. Government Printing Office, Washington, D.C.

1898 *Utica 15' Topographic Quadrangle, New York*. Government Printing Office, Washington, D.C.

1955 *Utica West 7.5' Topographic Quadrangle, New York*. Government Printing Office, Reston, Virginia.

1983 *Utica East 7.5' Topographic Quadrangle, New York*. Government Printing Office, Reston, Virginia.

Wager, Daniel P.

1896 *Our County and its People: A Descriptive Work on Oneida County, New York*. The Boston History Company, Publishers, Boston, Massachusetts.

Walsh, John J.

1977 *Scattered Leaves along the Sauquoit*. Paper delivered before the New Hartford Historical Society, New Hartford, New York. 14 April 1977.

Walthall, John A.

1998 *Overwinter Strategy and Early Holocene Hunter-Gatherer Mobility in Temperate Forests*. *Midcontinental Journal of Archaeology* 23(1):1-22.

WAPORA, Inc.

1990 *Phase I Cultural Resources Report for CNG Transmission Corporation's Proposed 12.94 Mile Gas Pipeline (TL-485, Ext. 1), Herkimer and Oneida Counties, New York*. On file at OPRHP, Waterford, New York.

ⁱ NYSDOH Technical Reference CSFP 625 – Evaluating individual water supply systems in proposed new realty subdivisions.