

PLYMOUTH INDUSTRIAL/COMMERCIAL/OFFICE LAND STUDY 2010-2012



TABLE OF CONTENTS

1. Executive Summary.....	1
2. Introduction	4
3. Industrial/Commercial/Office Land Study Committee	6
4. Acknowledgments	6
5. Study Background	7
6. Goals.....	8
7. Population and Workforce	10
8. Existing Land Inventory	16
9. Issues and Constraints to Development.....	20
10. Preferred Site and Infrastructure Requirements	24
11. Site Ranking System.....	25
12. Potential Development Locations.....	26
13. Implementation Strategies	29
14. Map Library.....	39
Appendices.....	42

In Plymouth, commercial growth has been strong, but residential development has vastly outpaced commercial development, and the costs associated with servicing single family housing in rural areas exceeds the tax revenues generated by such housing. To assure long term fiscal stability, Plymouth must increase its non-residential tax base.

Plymouth’s challenge is to expand its tax revenue through non-residential growth and to provide the kind of jobs and services needed by Plymouth residents. The Town’s economic development policy will be affected by housing market trends. (RKG Report 2001)



The Planning Board and the Board of Selectmen charged the Plymouth Industrial/Commercial/Office Land Study Committee with examining the long-term demand for commercially zoned land and to suggest land use, zoning and policy recommendations to help achieve Plymouth’s economic development goals.

I. EXECUTIVE SUMMARY

The Board of Selectmen and Planning Board charged the Industrial/Commercial/Office Land Study Committee with developing recommendations and strategies that support industrial and commercial development throughout the community. The charge included developing a methodology for site selection, identifying locations for new commercial and industrial development and recommending land use, zoning and policies modifications that encourage commercial and industrial development. Industrial uses allowed in Plymouth are primarily “light industrial” uses such as research and development, manufacturing, processing, packaging, storage and product assembly. Since a significant amount of retail development that has recently occurred in Plymouth, this report does not focus on retail development.

Looking forward, Plymouth’s population will continue to grow and the community can expect a strong demand for health care, scientific and technology jobs. This report focuses on strategies that not only encourage economic development but also create jobs for current and future Plymouth residents.

The committee:

- Held seventeen meetings,
- Met with owners and tenants of the Plymouth Industrial Park,
- Discussed various economic development issues with ten economic development and land use professionals. These professionals represented a cross-section of the land use community and included local and state officials, developers, engineers and representatives from the environmental/land preservation field;
- Presented the Committee’s findings to a joint meeting of the Board of Selectmen and Planning Board; and
- Held two public forums.

Today, approximately 5.6 % of the town is zoned for commercial and industrial uses. Currently only about 1,000 acres remain in these zones. This land could support an estimated 5 million square feet of building space. However, a large portion of this capacity for future development is located at the Plymouth Airport and the Pinehills. In the short term, significant industrial and commercial development is not expected to occur at these two locations. With limited commercial and industrial land, Plymouth needs to adopt additional economic development strategies.

A successful overall economic development strategy requires a number of ingredients. The three most important ingredients are:

- Short permitting time (less than 3 months),
- Direct highway access and
- The availability of infrastructure.

The committee conducted an extensive land use review and identified several possible sites that might be suitable for industrial or commercial zoning. However, it is important to note that this report is not recommending any specific rezoning actions. Such rezonings will require additional community outreach and dialog. Even with the suggestions outlined in this report, the

percentage of industrial and commercial land is not expected to increase significantly. Therefore, the implementation section of this report becomes equally critical. It focuses on other strategies that can help maximize development on land already zoned for industrial and commercial uses. Possible strategies include:

- Increases in building heights,
- Conversion of certain special permit uses to allowed uses,
- Revisions to the sewer tie-in fee,
- Creation of permit ready sites,
- Reductions in the number of project review meetings, and
- Streamlining Town Meeting's review process

This study identifies ways to increase the amount of commercial and industrial development in the Town. However, additional development will generate additional traffic on Plymouth's roads. Therefore, the Old Colony Planning Council has prepared a companion document entitled "Plymouth Industrial Expansion Impact Study." This report identifies potential traffic impacts that could result from the future development of industrial and commercial land uses in the town. The report focuses on three areas.

- Commerce Way / Plymouth Industrial Park
- Long Pond Road at Route 3 Exit 5 (Shops at 5; Camelot Industrial Park)
- Hedges Pond Road (Cedarville)

New development in these areas is expected to occur through not only the development of currently vacant parcels, but modifications to existing development as well through various zoning changes that may include increased building heights and decreased minimum frontage (increased building footprints).

The study was identifies:

- Traffic impacts from potential future development
- Necessary transportation improvements to mitigate increased travel demand
- Estimated costs for transportation mitigation

The major findings of this report are outlined in Section 13, Implementation Strategies.

Acceptance of this plan by the Board of Selectmen and Planning Board is only the beginning of the process. The next steps include:

- Working with the boards, committees and citizens to build consensus on how to move forward,
- Implementing strategies based on that consensus,
- Conducting further study and engaging the community about possible zoning changes to the sites noted in this report,
- Seeking capital funding requests for infrastructure, and
- Seeking Town Meeting approval of zoning bylaw amendments and zoning map changes.

The committee, the Board of Selectmen and the Planning Board looks forward to engaging the community, other boards and committees and Town Meeting on the recommendations outlined in this report.

2. INTRODUCTION

In the Spring of 2010, the Planning Board and Board of Selectmen initiated the process of reviewing Plymouth's Industrial/Commercial/Office Land. The Boards created a temporary committee consisting of nine members as follows:

- 2 Planning Board members
- 2 Board of Selectmen members
- 2 Economic Development Foundation member
- 1 Open Space Committee member
- 1 Citizen at large appointed by the Planning Board
- 1 Citizen at large appointed by the Board of Selectmen



The Committee met a total of 17 times throughout the process, held three informational meetings and made presentations to the Planning Board and Board of Selectmen. On January 25, 2011 the committee met with owners and tenants of the Plymouth Industrial Park. Fourteen individuals attended the meeting and provided valuable guidance to the committee. In addition, the committee met with 10 professionals including local land use professionals, local and state officials, developers, engineers and representatives of the environmental community.

On January 17, 2012, the Committee presented its findings at a joint meeting of the Board of Selectmen and Planning Board. In the Spring of 2012, the committee held two public forums (April 23rd and May 9th). Based on the comments and suggestions made during these meetings the Committee revised the report and recommendations.

The Industrial/Commercial/Office Land Study Committee is charged with the following tasks consistent with implementation of Goal X – Economic Development, and Part 6. Economic Development, of the Town of Plymouth Comprehensive Master Plan:

- Identifying preferred development locations
- Evaluate constraints to development.
- Collecting and reviewing existing land use information (existing development, land uses, environmental constraints, infrastructure, transportation issues land ownership patterns, etc.).
- Prepare a series of “industrial/commercial/office land use” goals.
- Analyzing and summarizing this information.
- Prepare a prioritized list of potential Industrial/Commercial/Office land.
- Document findings accompanied by a series of summary maps.
- Identify what additional information may be needed with respect to these areas to evaluate future infrastructure needs that may be associated with the proposed uses. Work with Town Hall staff to evaluate which of these tasks may require outside expertise to make further recommendations.
- Suggest land use, zoning and policies modifications to help achieve the goals.

PLYMOUTH INDUSTRIAL/COMMERCIAL OFFICE LAND STUDY

This study focuses on zoning districts where industrial, high tech and office uses are permitted and does not focus on the village centers. The village centers are primarily governmental, retail and dining destinations. However, they also have ample land and building space for office uses and mixed used developments. The Town should continue to recognize the importance of the villages and continue to support economic development within them.

3. THE COMMITTEE

Marc Garrett	Planning Board Designee
Bill Wennerberg*	Planning Board Designee
Kenneth Buechs**	Planning Board Designee
Bill Hallisey	Board of Selectmen Designee
John Mahoney*	Board of Selectmen Designee
Belinda Brewster**	Board of Selectmen Designee
Denis Hanks	Economic Development Foundation Designee
Richard Manfredi	Economic Development Foundation Designee
Oliver Durrell III	Open Space Committee Designee
Joan Bartlett**	Open Space Committee Alternate
Jim Saunders	Citizen at Large appointed by Planning Board
Dennis Lassige	Citizen at Large appointed by Board of Selectmen

* Committee members that stepped-down due to other obligations

** Replacement or temporary committee members

4. ACKNOWLEDGEMENTS

The Committee would like to thank everyone who supported and continues to encourage our effort; this document is better for their input. The results will be better for their, and your, involvement.

Lee Hartmann, AICP, Director of Planning & Development

Denis Hanks, Executive Director, Plymouth Regional Economic Development Foundation

Lynne Barrett, Finance Director

Jonathan Beder, Director of Public Works

5. STUDY BACKGROUND

From 1970-2009, Plymouth’s commercial and industrial sectors expanded significantly. Economic growth was particularly robust in the eighties but continued to be strong in the nineties, when 235 companies and 4100 jobs were created in Plymouth.¹ As of 2009, Plymouth had 1574 companies employing 23,000 workers.

Positive business growth has contributed to Plymouth’s steadily enlarging tax base. From 2000 to 2010, total annual revenue collected by the Town increased by approximately \$45 million, a 42% increase from 2000 (see **Table 1**). From 1989 to 1999, total annual revenues collected by the Town increased by \$75.5 million, an increase of nearly 150%. In 2010, property tax revenues accounted for 72% of the Town’s total revenue while State Aid and other intergovernmental payments accounted for 20% of the Town’s revenue. Excise taxes 4%, licenses and permits 1%. Interest, fines, and other charges accounted for the remaining 8%.

New business growth has been largely in services and trades rather than manufacturing. Plymouth must compete with neighboring towns to attract and retain business. Several nearby communities also have aggressive economic development programs and potentially attractive development sites.

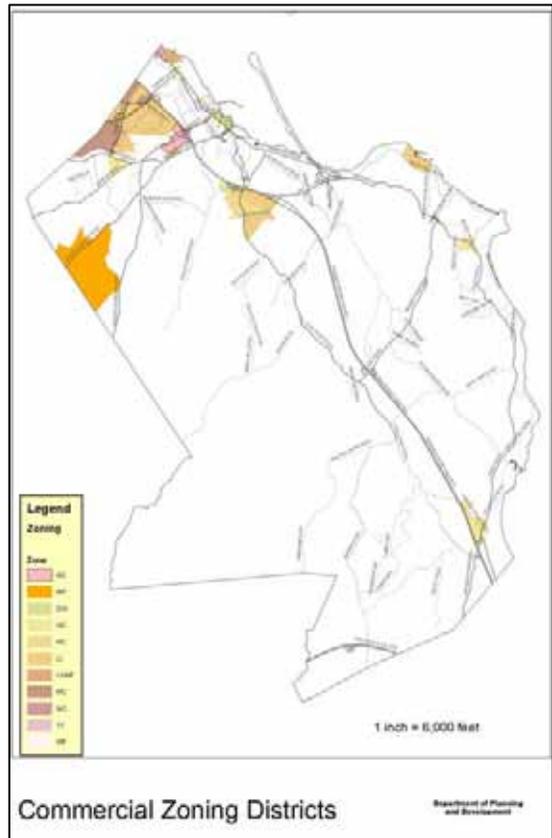


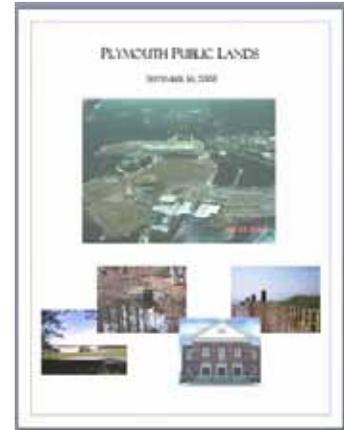
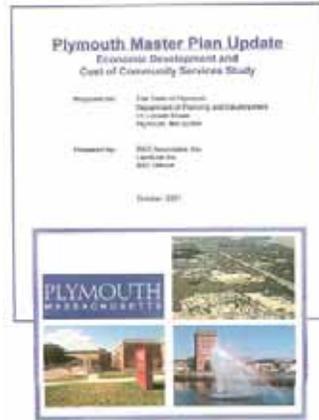
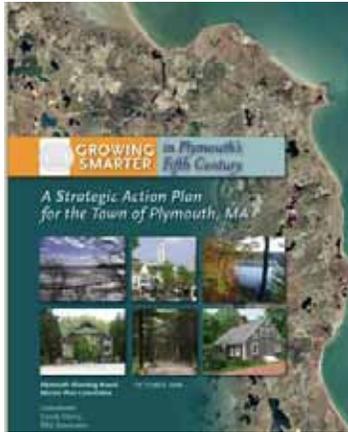
Table 1 Town Revenues

General Fund Operating Revenues	2010	2000	% Increase (Decrease)
Property taxes and payments in lieu	110,834,342.00	71,424,368.00	55%
Excise taxes	6,295,096.00	5,160,982.00	22%
Licenses and permits	1,532,313.00	1,623,974.00	-6%
Penalties and interest	652,854.00	583,559.00	12%
Investment income	352,433.00	1,156,236.00	-70%
Fines and forfeitures	372,113.00	393,629.00	-5%
Betterments and assessments		9,854.00	-100%
Charges for services	1,112,674.00	617,725.00	80%
Departmental and other	1,229,789.00	1,183,633.00	4%
Intergovernmental (Fed, State & Cou)	30,705,939.00	25,673,549.00	20%
Total revenues	153,087,553.00	107,827,509.00	42%

¹ RKG Associates, Plymouth Master Plan Update: Economic Development and Cost of Community Services, 2001, Volume II, p. 28.

6. GOALS

This document draws upon the planning work previously completed by the Town including the Economic Development Master Plan (RKG Report), Master Plan and Plymouth Public Lands Study.



PLYMOUTH'S VISION

Plymouth's Master Plan identifies six planning priorities as follows:

- **Control Sprawl**
- **Encourage Economic Development**
- **Balance Costs and Growth**
- **Preserve Character**
- **Protect the Environment**
- **Improve Quality of Life**

Master Plan Vision Statement

While each Plymouth citizen holds a unique dream for his or her own future, there are several common desires for the community as a whole, which have been repeatedly expressed through many different forums. First, the Town will retain its outstanding visual character, which is defined by its vast natural areas, pristine ponds, rivers, and wetlands, extensive coastline, and wooded ambiance. Second, the Town will efficiently provide a full array of services and amenities through its success in achieving and sustaining smart growth. Third, economic prosperity will prevail through abundant opportunities for desirable business investment, employment, shopping, tourism, housing choice, and entrepreneurship. The successes in plan-making and plan implementation will be reflected in a beautiful, maturing community with something for everyone. With vibrant and pleasant village centers, a preserved and enhanced historic heritage, long stretches of accessible coastline, integrated areas of commerce and compact housing, and vast, connected areas for open space, outdoor activities, and appreciation of nature, Plymouth will be an even more desirable town to live in than it is today.

PLYMOUTH INDUSTRIAL/COMMERCIAL OFFICE LAND STUDY

The Town encourages a wide range of land uses. The community recognizes the need to provide opportunities for people to live, work, shop and recreate. In 2001, the Town adopted an Economic Development Plan (also known as the RKG report). This report has served as the Town's primary tool for guiding economic development. The term "economic development" can mean many things to many different people. Generally, the type of economic development envisioned for Plymouth's future relates to office, tourism, high technology and clean industrial uses. Currently, Plymouth has a more than adequate number of retail business uses. Making land available for additional retail development is not the focus of this study. It should also be noted that the RKG report also recognizes the economic value of open space.



GOALS (2001 ECONOMIC DEVELOPMENT REPORT)

Provide and preserve an adequate inventory of non-residentially zoned land, in marketable locations, to enable the Town to maintain a growing and diversified tax base over the long term.

Preserve the marketability and capacity of key locations to support high-valued development.

Assure that Plymouth's future residential growth supports rather than compromises fiscal gains achieved by a successful economic development effort.

ECONOMIC DEVELOPMENT CONSIDERATIONS

The following is a list of attributes that are important to successful economic development. When deciding if land is suitable for economic development the following factors should be considered.

- I. Direct highway access. Visibility and proximity to a highway interchange enhances a site's desirability and minimizes traffic on secondary roads.
- II. Availability of infrastructure. Adequate infrastructure such as roads, water, wastewater, natural gas, and high speed internet are needed to support successful economic development.
- III. Maximize economic development in areas with existing development. Businesses often want to locate next to existing businesses. In addition, maximizing the level of use of already developed sites should be considered before developing new sites.
- IV. Provide employment opportunities throughout the Town. Providing nearby employment opportunities for Plymouth's residents is important.
- V. Adequate buffering for abutting residential uses. Adequate buffering of abutting residential neighborhoods from economic development uses is essential.
- VI. Reduce residential growth rate. The RKG report generally states the taxes paid by a new single-family dwelling do not cover the actual costs of municipal services for the dwelling. The report recommends a strategy of land acquisition to help significantly reduce the Town's residential tax burdens.



7. POPULATION AND WORKFORCE

The following is a brief overview of Plymouth’s population and workforce. Additional information can be found in the **Appendix**.

Population Characteristics

Plymouth's population in 2010 was 56,468 according to the U.S. Census. This represents a 9.2 percent increase from the 2000 population of 51,701. In the preceding decade (1990 to 2000) Plymouth’s population also increased by thirteen (13) percent from 45,608 to 51,701. The population grew by twenty-seven (27) percent from 35,913 in 1980 to 45,608 in 1990.

Most of the Plymouth’s residential growth was (and continues to be) the result of the construction of single-family, owner-occupied homes. The population projections (**Table 2**) predict continued residential growth in the coming decades.

Plymouth’s population and workforce will continue to grow in the coming decades. Plymouth’s growth rate is expected to outpace the growth rate of the region and the state. Plymouth can also expect to see continued growth in all age groups with higher growth rates in the 55 and over age categories. The higher growth rates in the over 55 age categories is due in part to the number of age restricted communities (dwellings and mobile home) in Plymouth. With a number of institutions of higher learning located in close proximity to Plymouth, the Town can also expect to continue to have a well-trained workforce.

Population Projections		
Year	Population	% Change
2000	51,701	
2010	56,468	9.2%
2020	73,633	30.4%
2025	78,921	7.2%
2030	84,210	6.7%

Source US Census, OCOC, & EOTP

Employment Characteristics

Table 3 lists employment in Plymouth by occupation in 2009. The largest percentage employment categories are Professional Specialty Occupations, Administrative Support and Other “site based” Services. According to **Table 4**, approximately fifty percent of Plymouth household had an income of between \$50,000 and \$125,000. Approximately thirteen percent of the households have incomes greater than that \$125,000 and the remaining thirty-seven percent earn less than \$50,000

Table 4

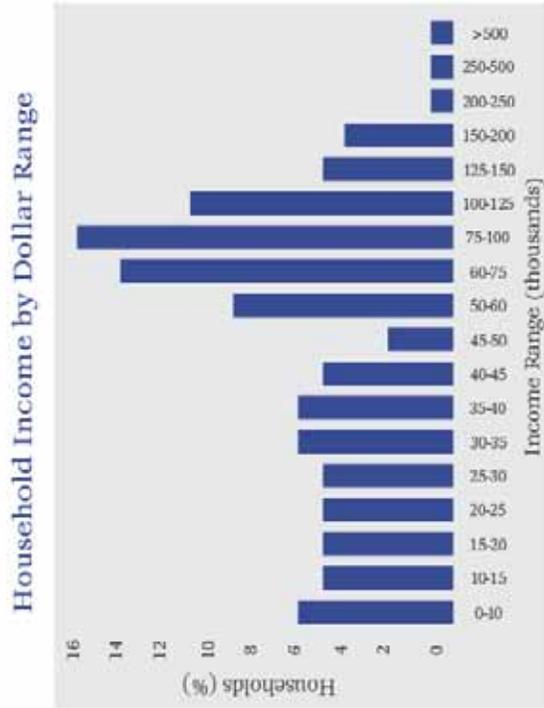
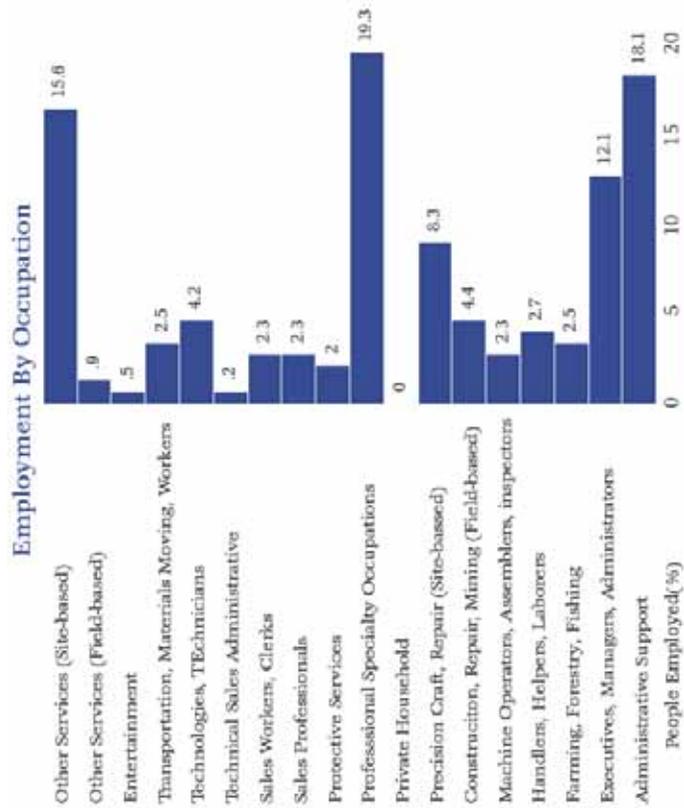


Table 3



Source: Executive Office of Labor and Workforce Development

PLYMOUTH INDUSTRIAL/COMMERCIAL OFFICE LAND STUDY

Over the past few years the Town has seen significant growth and development in the number of retail businesses. However, Plymouth’s largest employment sector continues to be the health care and social service sector. Plymouth has also seen significant growth in the Management of Companies and Educational Service sectors.

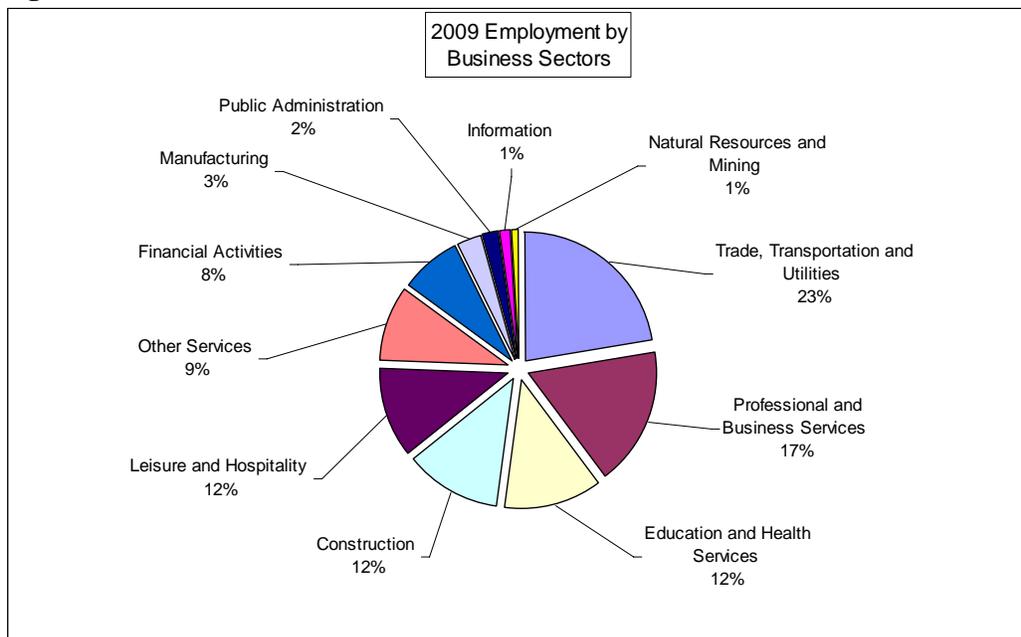
Nationally, manufacturing jobs have been on the decline. This decline is reflected in Plymouth’s employment sectors (see **Table 5, Figure 1 & Table 6**). Despite declines in manufacturing, Plymouth’s overall employment continues to grow.

Table 5 Employment Sectors and Wages

2009 Description	No of Businesses	Total Wages	Avg Monthly Empolyment	Avg Weekly Wages
Trade, Transportation and Utilities	356	\$219,871,178	5,177	\$817
Professional and Bus. Services	277	\$80,391,792	1,683	\$919
Education and Health Services	194	\$290,190,990	6,520	\$856
Construction	192	\$59,264,805	1,179	\$967
Leisure and Hospitality	183	\$72,964,754	3,768	\$372
Other Services	148	\$15,327,052	665	\$443
Financial Activities	125	\$37,904,852	755	\$965
Manufacturing	48	\$76,861,397	1,449	\$1,020
Public Administration	32	\$89,620,192	1,616	\$1,067
Information	23	\$30,430,855	463	\$1,264
Natural Resources and Mining	12	\$4,167,977	107	\$749
	1590	\$976,995,844	2,126	\$858

Source: Executive Office of Labor and Workforce Development

Figure 1



Source: Executive Office of Labor and Workforce Development

Table 6 Job Change by Sector

Changes in Manufacturing and Non-Manufacturing Sectors			
	1990	2000	% Change
Manufacturing	1,856	1,500	-19.2%
Non-manufacturing	11,782	14,378	22.0%
Government	2,416	3,041	25.9%
Total	16,054	18,919	17.8%

Source: Source: Old Colony Planning Council and Mass. Dept. of Employment & Training

The known and projected average employment for Plymouth **businesses are listed in Table 7**. Average employment is projected to increase by 33.5% between 2010 and 2050 or 8.2% per decade.

Table 7

Year	Average Employment
1970	4,644
1980	10,458
1990	16,054
1998	18,343
2000	19,100
2006	22,533
2010	22,145
2020	23,971
2030	25,250
2050	29,560

Source: Old Colony Planning Council Projections & Massachusetts Dept. of Employment and Training

Statewide Employment Trends

Looking at Massachusetts’ employment on an overall percentage bases between 2010 and 2016, increases in education and health services and professional and business services are projected while decreases are expected in the trades, transportation and construction sectors² (see **Figure 2**).

As a result of strong growth in the health care and professional, scientific, and business service industries, demand in Massachusetts for professional and technical workers will generate the most new jobs. Service workers – that includes nursing and home health aides and waiters and waitresses – will gain the 2nd largest number of new jobs through 2016. Together, these two occupational groups, which are at opposite ends of the education and earnings spectrum, will account for much of the state’s net new jobs by 2016 (over 98 percent)³ (See **Figure 3**).

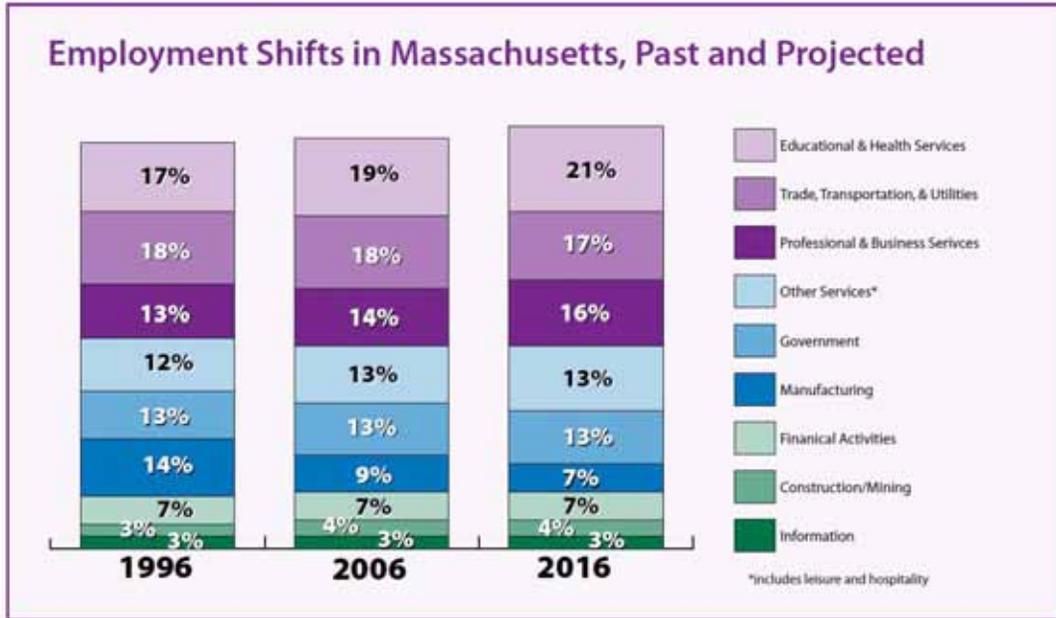
Demand for professional and technical services, which includes management consulting, computer systems design, research and testing, engineering, legal, and accounting services will expand 25.8 percent and generate 61,860 new jobs over 30 percent of all net new nonfarm wage and salary positions generated through 2016⁴.

² Commonwealth of Massachusetts Employment Projections, Executive Office of Labor and Workforce Development

³ Ibid.

⁴ Ibid.

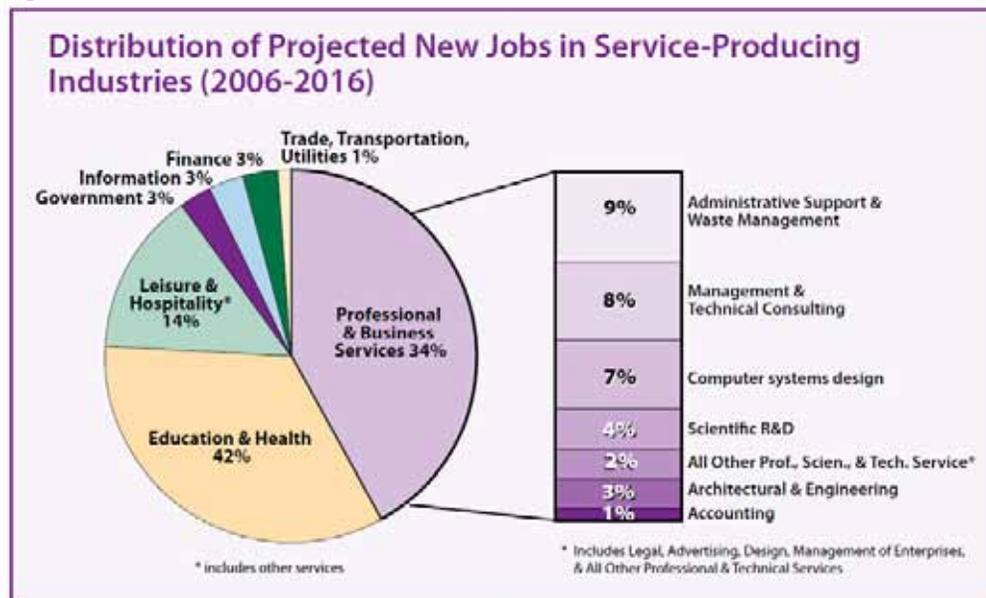
Figure 2



Source: Commonwealth of Massachusetts Employment Projections, Executive Office of Labor and Workforce Development

Management, Scientific, and Technical Consulting employment will increase by nearly 56 percent and 19,100 new jobs will be generated in this high-paying and highly diverse sector. Its growth rate will exceed that of any other industry in the Commonwealth and it will rank second behind hospitals in jobs created.

Figure 3



Source Commonwealth of Massachusetts Employment Projections, Executive Office of Labor and Workforce Development

Statewide Trend Conclusions

Based on the statewide trends and coupled with Plymouth's regional health care facility (Jordan Hospital), the Town can expect a strong demand for health care jobs. In addition, based on statewide trends and the number of existing high technology businesses located in Plymouth as well as the continued operation of the Entergy Nuclear Power Generation facility, Plymouth should continue to see a high demand for scientific and technology jobs.

8. EXISTING LAND INVENTORY

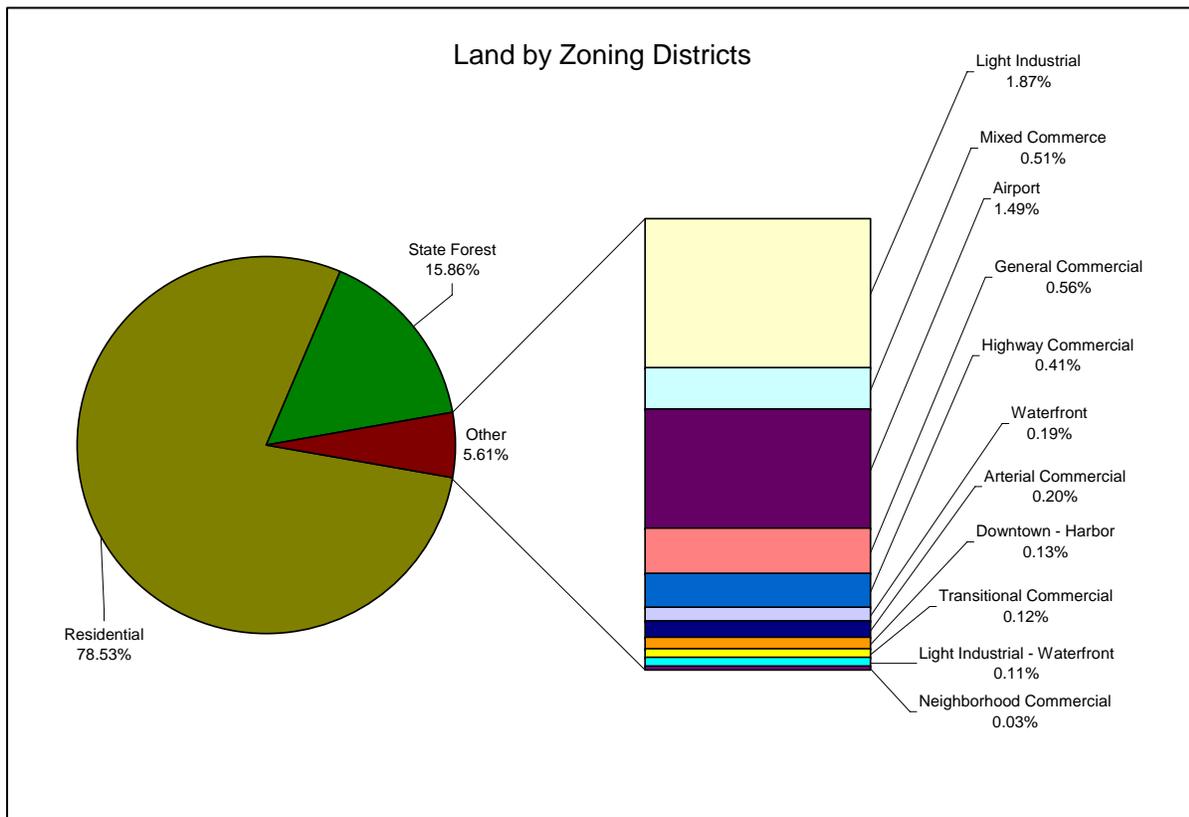
Available Land

Approximately 62,000 acres or 94% of the Town is either located within Plymouth’s residential zones or is part of the Myles Standish State Forest. Approximately 2,900 acres (4.4%) are located within the five zoning districts (LI, AP, MC, HC, and LI-WF) that allow industrial type uses. The remaining 800 acres (1.6%) are located within village/retail oriented zones (See **Figure 4**). Much of the land zoned for industrial and office use has already been developed to some degree.

Table 7 Plymouth Land Area by Zone

Zoning Category	Acres	Percent
Residential	51,605	78.53%
State Forest	10,425	15.86%
Light Industrial	1,227	1.87%
Mixed Commerce	338	0.51%
Airport	979	1.49%
General Commercial	366	0.56%
Highway Commercial	270	0.41%
Waterfront	122	0.19%
Arterial Commercial	130	0.20%
Downtown - Harbor	86	0.13%
Transitional Commercial	76	0.12%
Light Industrial - Waterfront	70	0.11%
Neighborhood Commercial	21	0.03%
Total	65,715	100.00%

Figure 4 Land Area by Zone



An examination of the undeveloped parcels in the commercial and industrial zones shows that there are 800 acres of developable and potentially developable⁵ industrial and commercial land in Plymouth. Much of this undeveloped land is located within Plymouth’s retail oriented zones (HC, MC, AC, and GC).

⁵ Land constrained by wetlands, limited access, easements, etc.

PLYMOUTH INDUSTRIAL/COMMERCIAL OFFICE LAND STUDY

Approximately 330 acres of undeveloped industrially oriented land exists in Town. In addition, the Pinehills development is permitted for an additional 1.1 million square feet of commercial and high technology building space (see **Table 8**).

Furthermore, a significant amount of development can occur (through leasing) at Plymouth Airport. Using building square footage to lot square footage ratios of 1 to 20, 1 to 5, and 1 to 4, staff developed a range of development potential on Plymouth’s undeveloped industrial land.

Table 8 – Available Commercial Land

Type	Acres
Developable Commercial	436.5
Potentially Developable	37.3
Developable Industrial	228.7
Potentially Developable Industrial	104.9
Total	807.4
Total for Town	65,716

Table 9 breaks down this development potential and includes staff’s best guess (5.3 million square feet of building space) if all this land were to be developed. It is important to note that this table only illustrates a hypothetical development potential.

Table 9 Undeveloped Commercial Land

Location	Acres	Parcels	Building Square Footage			Staff
			5%	20%	25%	
Pinehills	229.0	2	498,762	1,995,048	2,493,810	1,100,000
Airport	510.6	19	1,112,087	4,448,347	5,560,434	2,224,174
Developable Industrial	190.4	63	414,598	1,658,392	2,072,989	1,658,392
Potentially Developable Ind.	149.6	40	325,825	1,303,299	1,629,123	325,825
Total	1079.6	124	2,351,271	9,405,085	11,756,357	5,308,390

Infrastructure

When looking at the available undeveloped industrial and office land it is also important to look and the lands proximity to infrastructure (public water, wastewater and highway access). **Maps 2 and 3** demonstrates that much of the industrial/office zoned land is located within close proximity to public water, wastewater and highway interchanges. The Airport’s distance (approximately 4 miles on secondary roads) to a highway interchange is the only notable exception.

Land Use Values

Table 11 lists 34 categories of existing non-residential land uses in 2010⁶ and total value. The highest value land use is electric generation (the Entergy Power Plant). Interestingly, the second highest value category is “Mixed Use”. This illustrates the importance to Plymouth’s economy of the many smaller office/retail uses found throughout town. The “Mixed Use” category also has the greatest number of buildings associated with it. Retail and consumer based services are a dominate employment category throughout the table. The fourth and sixth highest value uses are “Manufacturing & Processing” and “General Office” respectively. **Table 10** identifies the major employers in Plymouth as of November 2010.

⁶ Source Plymouth’s 2010 CAMA & GIS data

PLYMOUTH INDUSTRIAL/COMMERCIAL OFFICE LAND STUDY

Table 10 Employment by Sector

<i>Employer</i>	<i>Sector</i>	<i>Employees</i>
Town of Plymouth	Government	Total 1948 ⁷
Jordan Hospital	Healthcare	1600
Entergy Nuclear Generation Co.	Utility	650
Tech Etch	Light Industrial	Plymouth 411 ⁸
Wal*Mart	Retail	482
PartyLite Gifts	Light Industrial	225
SmartPak Equine	Horse Care	235
Plimoth Plantation	Tourism	185 total ⁹
Kohl's Department Store	Retail	145
BJ's Warehouse	Retail	110
Plymouth & Brockton Street Railway	Transportation	111

Table 11 2010 Non-Residential Land Uses

Land Use	Acres	Gross Blding	Finish Area	Buildings	Total Value
Electric Generation	133.57	0	0	0	800,000,000
Mixed Use	6906.71	1,954,029	1,280,999	385	202,074,596
Retail/Supermarkets	230.26	1,927,777	1,765,424	60	178,918,400
Manufacturing & Processing	236.28	2,764,570	2,548,752	86	120,885,400
Small Retail	120.28	1,483,621	1,260,394	85	100,556,500
General Offices	135.30	1,024,526	858,689	85	87,291,200
Auto Sales/Gas/Repairs	55.11	279,051	249,070	49	40,999,600
Hotels/Motels/Inns	32.50	595,348	507,416	19	40,674,900
Developable Industrial	226.87	0	0	22	40,065,800
Eating & Drinking	25.02	293,568	208,075	45	36,353,700
Nursing Homes	36.13	426,689	399,820	8	36,297,800
Developable Commercial	245.01	0	0	34	35,688,500
Storage/Warehousing	65.58	445,927	415,002	73	25,254,200
Office condo	0.00	178,571	172,450	108	21,738,400
Outdoor & Indoor Recreation	159.31	240,660	208,708	30	20,296,290
Medical Office Condo	0.00	82,505	82,505	55	15,564,000
Utilities	171.85	51,306	47,106	8	13,803,300
Banks	7.79	122,256	78,269	12	13,411,000
Pot. Developable Ind.	151.42	0	0	7	12,250,700
Public Services	19.64	129,568	104,963	13	10,197,400
Medical Offices	8.59	98,097	67,575	12	10,159,800
Hangar; No Land	0.00	322,202	322,087	46	10,107,000
Commercial Improvement	68.46	6,308	4,593	6	7,334,800
Cultural & Entertainment	10.57	95,858	87,802	4	5,897,400
Retail Condo	0.00	42,005	35,967	19	5,870,200
Gravel Removal	53.99	14,453	13,643	3	4,526,700
Parking & Garages	9.68	0	0	2	3,343,600
Undevelopable Ind.	57.02	0	0	6	2,410,200
Utilities	2.96	6,140	5,132	2	2,344,600
Manufacturing Warehouse	0.00	21,561	21,561	12	1,999,800
Pot. Developable Comm	26.31	0	0	2	1,658,400
Industrial Condo	0.00	19,538	17,802	10	1,463,700
Lumber Yards	4.15	27,802	27,802	3	1,125,200
Un Developable Commercial	28.84	0	0	9	803,900
Total	9229.19	12,653,936	10,791,605	1,320	1,911,366,986

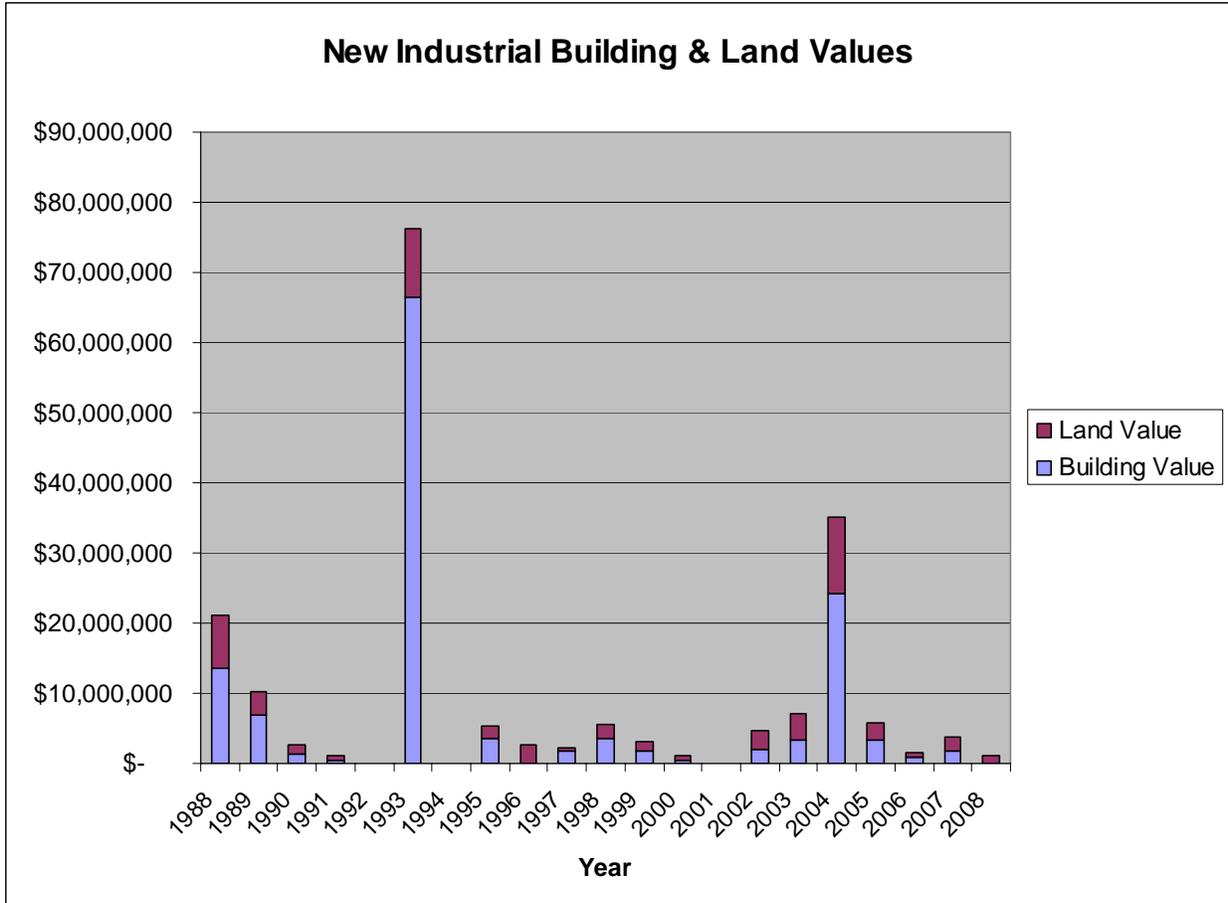
⁷ 512 Town/1436 School - includes full-time, part-time and substitutes

⁸ Tech Etch also has offices in Litchfield, MN (27 employees) and Fall River (91 employees)

⁹ 85 FT & 100 seasonal

A year-by-year examination of how development occurs shows that development tends to occur in bursts (see **Figure 5**¹⁰). A similar development pattern can be expected in the future.

Figure 5



Conclusions

The Town currently has the capacity for significant commercial, industrial and office development. However, the bulk of this land is located at Plymouth Airport or in the Pinehills Community. Limited highway access will continue to limit the rate of development at the Airport and to date, larger scale office and high technology uses have not been a focus of development within the Pinehills.

¹⁰ Source Plymouth’s 2010 CAMA & GIS data

9. ISSUES AND CONSTRAINTS TO DEVELOPMENT

After meeting with community officials, town staff, individuals from the development community, individuals from the environmental/land preservation community and professional engineers, a number of common themes began to emerge. Foremost is the need to have “build-ready” sites and a streamline permitting process. Furthermore, based on these themes the committee identified a number of issues and conditions that limit the desirability and availability of land for future industrial, commercial and office uses.

The major constraints include:

- Size & Area Configuration
- Access
- Setting
- Slopes
- Encumbrances
- Availability of Infrastructure
- Legal & Regulatory Issues
- Status of Title

Surface Area

Size

Generally, larger sites (over 25 acres) are more suitable for commercial development than smaller sites. A large site can include greater buffers, setbacks and building square footage. In addition, if off-site improvements (road, water and wastewater) are required, larger developments with greater building square footages are better able to absorb the costs associated with such improvements.

Shape/Configuration

Symmetrically shaped sites with ample road frontage are more desirable than asymmetric areas. It is more difficult to site a building and associated parking facilities on sites that contain narrow strips of land or land separated by roads. However, narrow strips of land can serve as open space or buffers. Undeveloped parcels separated by existing residential neighborhoods and are also difficult to develop. Such land requires multiple setbacks and buffers for each neighborhood.

Access

Proximity to Highways

One of the most important criteria for commercial development is easy and convenient access to the state and interstate highway systems. Sites that are visible from or within ½ mile of an interchange are most desirable. The greater the distance to an interchange the less desirable is the site.

Proximity to Rail and Cape Cod Bay

Sites located adjacent to Plymouth Airport, rail lines or Cape Cod Bay may be desirable for certain niche businesses needing rail or ocean access for shipping goods or for employee access.

Roadway Capacity

In 1999, MassHighway completed a study analyzing the potential impacts of population growth on traffic volumes in Plymouth, Kingston, and Plympton. The study examined the impacts of:

- The widening of Route 3 from four to six lanes;
- The re-establishment of commuter rail service from Kingston to Plymouth; and
- The re-alignment of Route 44.

The study investigated the impacts of four possible scenarios:

- Existing development
- Development of 50% of remaining buildable lots
- The development of 75% of remaining buildable lots
- The development of 100% of remaining buildable lots

This study predicted the ratios of volume to capacity for major road segments and intersections in the study area. Not surprisingly, it found that congestion was worst along Route 3A through Plymouth Center. It also indicated that, at just 50% buildout, traffic along the entire length of Route 3A from Beaver Dam Road to Route 106 in Kingston would exceed capacity. Rocky Hill Road was also shown to exceed capacity as early as 50% build-out. The study concluded that at 100% build-out, most major intersections in the entire study area would become chokepoints with volume exceeding capacity.

Costs associated with roads requiring improvements (signalization, interchange improvements, road widening or road reconstruction) are often a major constraint to development.

Setting

Village Center

In 1980, the Town adopted master plan created five village centers (Plymouth Center, North Plymouth, West Plymouth, Manomet and Cedarville). Through the master plan, zoning, and the capital improvement program the Town focuses both development and infrastructure improvements in its villages. A significant proportion of all road improvements, water and wastewater expansion projects occur within Plymouth's five village centers. Village residents also provide an employee base for businesses.

With a ready source of workers, commercial activity, and municipal infrastructure, Plymouth's villages can be conducive to economic development. Although it is not an officially designated village center, the Pinehills is also a center with nearby workers, commercial activity, and private infrastructure.

Commercial Areas

Areas with existing commercial development and employment base are also conducive to commercial development. However, many of Plymouth's commercial zones are in close proximity to residential neighborhoods. Because of the potential conflicts, a lower rank should be placed on commercial areas that are adjacent to residential neighborhoods and zones.

Developed Neighborhoods Areas

Vacant land located in or adjacent to residential neighborhoods has similar challenges to the situation noted above. A lower ranking should be placed on areas that are adjacent to residential neighborhoods.

Rural Areas

In addition to potential conflicts with abutting neighborhoods, rural areas also have limited infrastructure and are often the location of rare and endangered species. However, rural areas with few or no residential abutters could provide a suitable location for some types of commercial development.

Encumbrances

Slopes

Steep slopes and varied topography require significant amounts of work to prepare sites for development. Significant costs and extended construction time can be significant constraints to development on such sites.

Wetlands

Plymouth's excessively well-drained sandy soils tend to limit the occurrence of wetlands as compared to areas of the state with more glacially compacted soils. Wetland vegetation tends to occur around pond shores, along stream and river corridors, in depressions (where the land may contact the groundwater) and in salt marshes. Wetland vegetation in Plymouth supports a host of otherwise scarce plants and animals.

Rare and Endangered Species

Plymouth has the third highest occurrence of rare, threatened and endangered species per square mile of any town in Massachusetts. Considering that Plymouth also has the largest land mass of any town in the Commonwealth, this speaks to the outstanding biodiversity values of the Town. Many of the rare plant species are associated with pine barrens and coastal plain pond shores. Indeed, of the 23 state listed plant species in Plymouth, 14 occur in the coastal plain pond shore plant communities. It is important to note that the natural community itself is considered rare, with some of the best global occurrences in Plymouth. In fact, Plymouth and, to a lesser extent Cape Cod, are the only places on Earth where these plant communities occur in complexes of 5 or more adjacent ponds.



Water Resources

Plymouth is underlain by the regionally extensive Plymouth-Carver aquifer, which is designated as a Sole Source Aquifer, and is the sole source of drinking water in Plymouth and Carver, and a significant source of drinking water for the neighboring communities of Kingston, Bourne, Wareham and Middleborough. The Plymouth-Carver aquifer extends across much of southeastern Massachusetts. The aquifer is estimated to contain 500 billion gallons of potable water.

The recharge areas that contribute to the public drinking water wells are especially important to protect in order to maintain drinking water. These areas are designated as Zone II wellhead protection areas under the Source Water Assessment and Protection Program of the Commonwealth and the Federal Safe Drinking Water Act. The Town's Zoning Bylaw includes protection for these well fields. Roughly eighty percent of the Town is located within its Aquifer Protection Zoning District. In 2011, the Bylaw was revised to include strict standards and safeguards that allow development to occur while ensuring Plymouth's drinking water is adequately protected.

Availability of Infrastructure

Water

The water system is primarily located in West Plymouth and along the coastal corridor (east of Route 3) and is comprised of six separate service zones which are differentiated by the hydraulic grade or pressure. The distribution system piping consists of approximately 200 miles of transmission and distribution mains varying in size from 2 - 20 inch in diameter. Approximately 65% of the Town's population and virtually all of its commercial uses are tied into the municipal water system. The Pinehills and the Ponds at Plymouth also have their own drinking water system.

Wastewater

Plymouth has 50 miles of sewer mains that collect and transport sewage to the treatment plant located behind the Camelot Drive Industrial Park. The users of the system, approximately 3,000 accounts, are located in Plymouth Center, North Plymouth. The system serves the most densely developed portions of the town (about 10% of all homes) and certain major industrial and commercial facilities. The area includes everything north of Samoset Street and west of Route 3 (plus Cherry Street Industrial Park), east of Route 3 and south along Route 3A to Timothy Lane and Jordan Hospital, and west along Long Pond Road to PCIS. The Pinehills owns and operates a private wastewater facility.



Legal & Regulatory Issues

After reviewing a site’s physical constraints, a review of the regulatory constraints is also necessary. Local, state or federal laws and regulations can be a significant constraint to development.

Status of Title

Finally, does the site have clear title or are the significant title or ownership issues that would prevent the transfer of an otherwise desirable site to a developer?

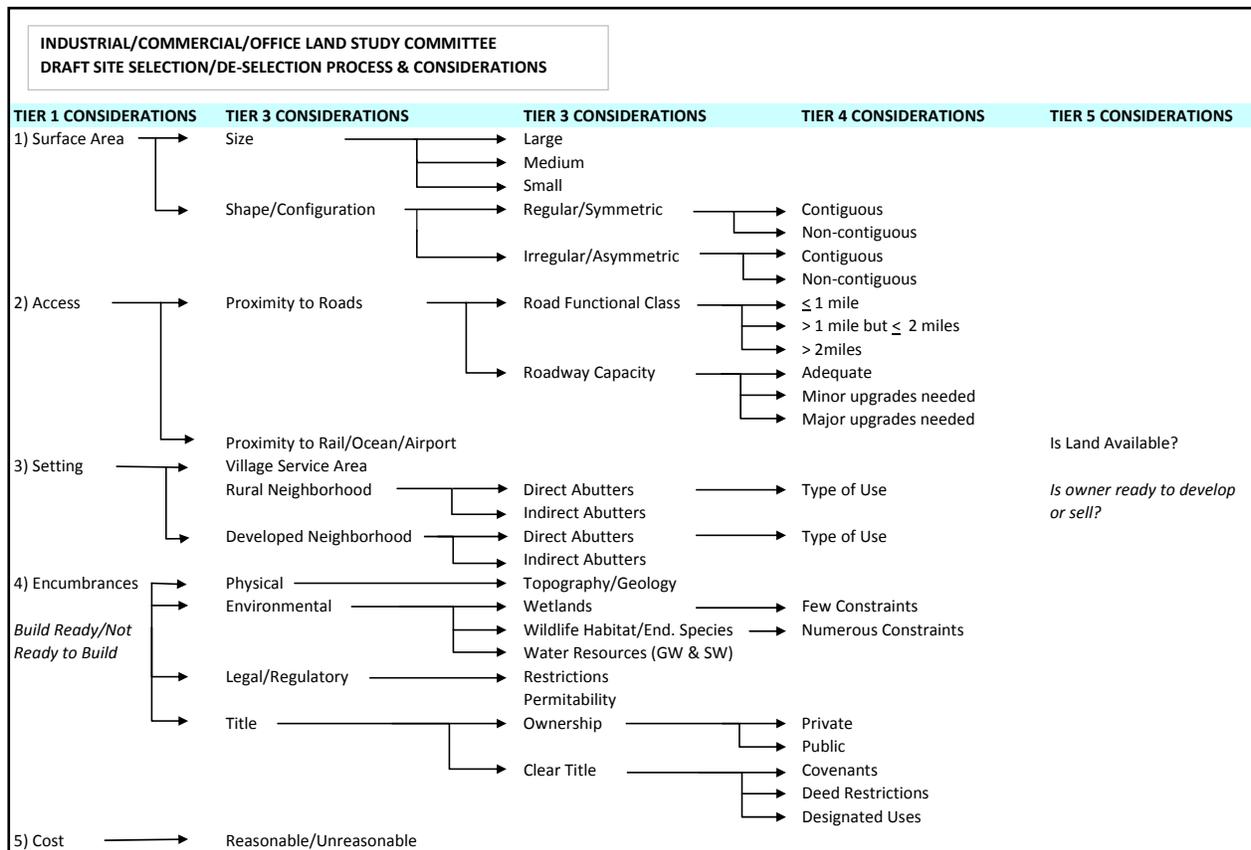
10. PREFERRED SITE & INFRASTRUCTURE REQUIREMENTS.

Generally speaking, the most significant site selection factors are:

- Convenient access to a state or interstate highway
- Short permitting time of less than 3 months
- Overall positive image of buildings & sites (clean and well maintained - older or dilapidated buildings and sites are less positively received)

The committee developed **Table 12** based on dialog with various economic development and open space professional and based on constraints contained in the previous section. **Table 12** was used as a protocol for establishing a site ranking process. It breaks the criteria down into five tiers. Each tier identifies major issues and constraints that limit a site’s viability for commercial development.

Table 12



II. SITE RANKING SYSTEM.

Working off **Table 12** the committee assigned values to each select/de-select item to develop a ranking system (see **Table 13**). The criteria should be used as a primary tool to evaluate a site's potential feasibility for re-zoning.

Initially, this ranking system was used to evaluate six sites. It was then refined and used to evaluate just over 20 sites for commercial development in Plymouth. It is interesting to note that after extensive review, the committee was only able to identify a relatively small number of sites for larger scale commercial expansion. Plymouth has a significant amount of undeveloped land but due to remoteness, lack of infrastructure or environmental issues much of this is not suitable for commercial development.

In the future, this Site Ranking Criteria should be one of the primary tools used to evaluate industrial/commercial and office zoning changes. Other possible tools include community forums, infrastructure analysis and the requirements contained in **Table 20**, **Table 21** and **Table 22** in the Appendix prepared by the Massachusetts Alliance for Economic Development.

Ultimately, any potential change in zoning, will require review by Town boards and committees, public hearings and Town Meeting approval.

Table 13 Site Ranking Criteria

Site Ranking Criteria (Maximum Points 140 - Minimum 5 Points)	
May, 2011	
Stage 1 - Primary Review Criteria	
Acres	Points
SURFACE AREA	
Size	
Greater than 25 ac	15
10 to 24 ac	10
Less than 10 ac	5
Shape/Configuration	
Regular/Symmetric	10
Irregular/Asymmetric	5
Non Contiguous	0
ACCESS	
Proximity to Direct Highways Access	
Within 1/2 Mile	20
Within 1 Mile	15
Greater than 1 Mile	10
Proximity to Airport/Rail	5
Proximity to Ocean	5
Roadway Capacity	
No upgrades needed	15
Minor upgrades needed	10
Significant upgrades needed	0
SETTING	
Within a Village Service Area	10
Commercial Area few abutters	10
Commercial Area with abutters	8
Developed Neighborhood few abutters	7
Developed Neighborhood with abutters	0
Rural Area with few abutters	8
Rural Area with abutters	0
ENCUMBRANCES	
Slopes	
Limited slopes	5
Moderate slopes	3
Severe slopes	0
Wetlands	
No wetlands	5
Limited wetlands	3
Significant wetlands	0
Wildlife Habitat/End. Species	
No Wildlife Habitat/End. Species	5
Limited Wildlife Habitat/End. Species	3
Significant Wildlife Habitat/End. Species	0
Water Resources	
None	5
Area of Influence	3
Zone 2	0
INFRASTRUCTURE	
Town Water	10
Town Sewer	10
Stage 2 - Requires Additional Discussions with Property Owners	
LEGAL/REGULATORY	
No Use restrictions	10
Significant Use restrictions	0
TITLE	
Clear title	10
Some title issues	5
Major title issues	0
Total Points	
Percent of Total Possible Points	

12. POTENTIAL DEVELOPMENT LOCATIONS

SITES SUGGESTED FOR FUTURE STUDY AND CONSIDERATION

After applying the criteria noted in the previous section, the committee has identified a number of potential sites that the Board of Selectmen, Planning Board, Plymouth Regional Economic Development Foundation and Town Meeting should explore as possible locations for industrial, commercial or office uses. The sites are broken down into three categories

- *Sites already zoned for commercial uses but remain undeveloped*
- *Sites worthy of review within the coming years and*
- *Sites that should be considered in the future (5 to 15 years).*

*It is important to note that the committee is only recommending further study and public dialog and is **not** recommending that any sites be re-zoned. A considerable of community discussion and review will be needed before proceeding with any sites.*

The committee examined over 20 sites located throughout the Town. The two most important criteria for commercial development are a large land area and proximity to highways. Therefore, sites were initially selected because of location, size or proximity to a current or future highway interchange.

Sites already zoned for commercial uses but remain undeveloped

Four undeveloped, commercially zoned, sites were reviewed as part of the site analysis exercise:

- A 4.2 acre site located on Lothrop Street and Water Street
- An 18 acre site located on the western side of Pilgrim Hill Road
- A 53 acre site located between Carver Road and Plympton Road
- A 26 acre Cedarville site located on Hedges Pond Road (adjacent to Route 3)

The Town should contact the owners and other interested citizens to discuss the issues that limit or prevent development of these sites.

The Lothrop Street and Water Street site is located within the Waterfront Zone and is serviced by Town water and Town sewer. Issues affecting development could relate to existing uses, limited highway access, types of commercial uses allowed or the mix of allowed uses.

The Pilgrim Hill Road site is zoned Arterial Commercial and is serviced by Town water. Issues affecting development could include the need to relocate a major natural gas transmission line, lack of Town sewer and the need for additional access improvements. Options to finance infrastructure improvements such as District Improvement Financing or betterments should be considered.

The Carver Road Plympton Road site is pre-permitted for a mix of retail, office, hotel and senior housing. Issues affecting development could relate to the distance from a highway, the lack of Town sewer and the mix of allowed uses.

The Hedges Pond Road site is permitted for 174,500 square feet of retail building space. The permit was appealed in 2003 and remains the subject of litigation. In addition to the litigation, significant improvements to Hedges Pond Road, State Road, Herring Pond Road and Exit 2 (Route 3) are required. The site is permitted for retail uses but office, laboratories and medical facilities are also permitted in the zone.

Time line: Years 1 through 5

Authority: Board of Selectmen, Planning Board, Plymouth Regional Economic Development Foundation and Town Meeting

PLYMOUTH INDUSTRIAL/COMMERCIAL OFFICE LAND STUDY

Action items: Review constraints to development and present possible regulatory, zoning and financing options.

Sites suggested for further study within the next few years

Five undeveloped, residentially zoned, sites were ranked highly by the committee:

- A Town owned 53 acre site located on Samoset Street (behind Walgreens)
- A 28 acre site located on State Road south of the White Cliff's golf course
- A 22 Acre site located adjacent to the Shaw's Plaza on Pilgrim Hill Road (currently permitted for a 55+ housing development)
- A 150 acre site located on Long Pond Road and includes the County "Wood Lot"
- A 200 acre site located along Powerhouse Road in Manomet

The Town owned 53 acre site located on Samoset Street (behind Walgreens) is also known as Site 101. The land is currently held as an alternative wastewater disposal site for Plymouth's water treatment facility. The property has over 600 feet of frontage on Samoset Street and is within 2,000 of Exit 6 for Route 3. The site is serviced by Town water and the Town's sewer system is nearby (Armstrong Road). Given the site's location and available infrastructure, it would be a desirable location for commercial development if no longer needed of wastewater disposal.

A privately owned 28 acre site located on State Road south of the White Cliff's golf course is also worthy of consideration. The property abuts Route 3, State Road, the White Cliff's golf course and a Business 2 zone in Bourne. The site is within close proximity to Route 3 Exit 2 and is serviced by Town water.

The ranking identified a 22 acre site located adjacent to the Shaw's Plaza on Pilgrim Hill Road (currently permitted for a 55+ housing development). Access should be via Pilgrim Hill Road and a no access/vegetative buffer would be needed along Summer Street.

The County owned "Wood Lot" and an abutting parcel contain approximately 150 acres. The site could be accessed of Camelot Drive and could be serviced by Town water and sewer. Due to the existing amount of development within the Long Pond Road corridor significant road improvements may be needed to allow development on this site.

Approximately 200 acre of land exists on either side of Powerhouse Road from State Road to Rocky Hill Road in Manomet. The site is well buffered from existing residential neighborhoods and serviced by Town water. Unfortunately, it is located approximately 4 miles from Exit 4 and 4.5 miles from Exit 3 of Route 3. The site may be desirable to businesses that support the nuclear power industry.

Time line: Years 1 through 5

Authority: Board of Selectmen, Planning Board, Plymouth Regional Economic Development Foundation and Town Meeting

Action items:

- Explore with the community and appropriate village steering committees possible re-zoning options.
- Develop a full understanding of the infrastructure and access improvements needed to support such rezoning.

Sites suggested for further study in future

Two undeveloped, residentially zoned, sites were ranked highly by the committee but will require significant infrastructure investment, legal work and regulatory permitting to proceed:

- Hedges Pond Road corridor
- Thousand Acres

A third site was highly ranked but has significant topographic challenges and is in close proximity to residential neighborhoods.

- Tax Title Land off State Road

Hedges Pond Road corridor (east of Route 3 and north of the Hedges Pond Road underpass of Route 3) is approximately 1.5 miles from exit 2 on Route 3 but does contain hundreds of acres of undeveloped land. However, development challenges include the site's proximity to established residential neighborhoods, cranberry bogs and proximity to a municipal well. In addition, significant road improvements would be needed to support industrial development in the area.

The Town owns a significant amount of land located off Bourne Road in the vicinity of Route 25. The area is often referred to as the "Thousand Acres". Development constraints include title and ownership issues exist. In addition, a majority of the site is mapped habitat for rare, endangered and threatened plants and animals. Furthermore, direct access to Route 25 does not exist. Nevertheless, given the site's size, the Town should continue to be identified as a potential site for economic development. The Town should continue to explore options to establish clear title and develop access to Route 25.

Approximately 68 acres of Town owned Tax Title Land is located off State Road north of Admiral Halsey Road and south of Treetop Way. The total change in topography (sloping downward from State Road) is over 100 feet. In addition, the property is surrounded by established residential neighborhoods. There may be the potential for some level of limited commercial development on the site.

Time line: Years 5 through 15

Authority: Board of Selectmen, Planning Board, Plymouth Regional Economic Development Foundation and Town Meeting

Action items:

- Examine/rectify title issues
- Meetings with abutting neighborhoods and the Cedarville Steering Committee
- Examine site constraints
- Seek federal, state, local and private funds for infrastructure and road improvements

13. IMPLEMENTATION STRATEGIES

INTRODUCTION

In addition to identifying potential sites for future industrial, commercial and office development, the committee identified twenty-six other strategies that the Town should also examine in more detail. The committee ranked the strategies by importance and created five (5) priority tiers as outlined in **Table 14**. In addition, **Table 14** identifies the boards/agencies responsible for implementing these strategies. The Town should first consider strategies identified as tier one priorities. As first tier priorities are examined, priorities in second, third, fourth and fifth tier priorities should be explored.

ACTIONS

The twenty-six suggested actions are grouped into four categories:

- Zoning Strategies
- Infrastructure Strategies
- Permitting Strategies
- Other Strategies

The agencies with authority or oversight for each item has also been identified.

Multiple Buildings on a lot



Table 14 - Plymouth Industrial/Commercial/Office Land Study Implementation Strategies

Actions	Comment	Authority	Priority
<i>ZONING STRATEGIES</i>			
<i>Building Heights</i>	Increasing the allowed heights in Plymouth’s industrial areas will help to maximize the development potential of land currently zoned for such uses. Building heights in the 60 foot to 100 foot range should be considered. A tiered approach should also be considered with lower building heights located adjacent to residential neighborhoods.	Planning Board and Town Meeting.	First Tier
<i>Conversion of Special Permit Uses to Allowed Uses in the Light Industrial Zone</i>	Uses regularly approved but require a Special Permit include: <ul style="list-style-type: none"> • Hotels and motels in the Light Industrial Zone • Automotive garages and heavy equipment sales and service • Accessory retail uses (One possible option up to 10% of the proposed use or a maximum of 1000 square feet) Placing such uses in the allowed use category will streamline permitting and should be considered.	Planning Board and Town Meeting.	First Tier
<i>Parking Reductions</i>	The demand for parking varies by use and by business. The current parking requirements, established in the 1970s, are 1 space for every 200 square feet of building space for most uses and one space per 1,500 square feet for warehousing. Reductions of the general standards or a more flexible (non-special permit) waiver process should be considered.	Planning Board and Town Meeting.	Second Tier
<i>Conversion of Special Permit Uses to Allowed Uses in the Mixed Commerce Zone</i>	Uses regularly approved but require a Special Permit include: <ul style="list-style-type: none"> • Office buildings, laboratory, research facilities, and other campus-type office structures or groups of structures greater than 10,000 square feet in size. • Hotels and motels greater than 10,000 square feet in size. Placing such uses in the allowed use category will streamline permitting and should be considered.	Planning Board and Town Meeting.	Second Tier
<i>Relax Setbacks and Yard Areas</i>	The setbacks within the Light Industrial Zone are: <ul style="list-style-type: none"> • 30 feet side yard • 50 feet front yard • 30 feet rear yard A reduction in the minimum yard requirement will allow property owners to maximize development of existing industrially zoned land.	Planning Board and Town Meeting.	Third Tier

Table 14 - Plymouth Industrial/Commercial/Office Land Study Implementation Strategies

Actions	Comment	Authority	Priority
<i>Relax Floor Area Ratio and Maximum Lot Coverage Requirements</i>	The zoning bylaw allows a maximum building coverage of 50% or a maximum floor area ratio of .75. Coupled with increased building heights, increasing the allowed lot coverage in industrial areas will help to maximize the development potential of land currently zoned for such uses.	Planning Board and Town Meeting.	Third Tier
<i>Strengthen Aquifer Protection Standards While Allowing Economic Development to Occur</i>	Plymouth has a limited list of sites suitable for economic development. Many of these sites are also located within the Town’s Aquifer Protection District. The Town should explore options to strengthen the regulations protecting our groundwater while still allowing development to occur.	Planning Board, Department of Public Works, Board of Selectmen and Town Meeting.	Third Tier
<i>Reduce the Frontage Requirements within the Light Industrial and Airport Zones</i>	The minimum frontage requirement in the Light Industrial and Airport Zones is 200 feet. A reduction in the requirement to the range of 50 feet to 100 feet should be considered. The current requirement for 200 feet of frontage limits the ability to develop vacant or underutilized land.	Planning Board and Town Meeting.	Third Tier
<i>Vary Setbacks and Yard Areas by Special Permit</i>	The Zoning Bylaw does not specifically state that setbacks in industrial and commercial zones can be varied by special permit. Language similar to that found for all residential zones should be added for commercial and industrial zones.	Planning Board and Town Meeting.	Third Tier
<i>Review the Open Space Mixed Use Development (OSMUD) Bylaw</i>	To improve the commercial marketability of development sites within the Pinehills Community, the Town should consider measures to increase development site and building visibility from Route 3. In addition, to increase the potential for development and further improve commercial marketability of the Pinehills, additional building heights should be considered.	Planning Board and Town Meeting.	Fourth Tier
<i>Allow Shared Parking Beyond 400 feet</i>	Allowing parking spaces to be located off-site in satellite/shared facilities should be considered. Currently such spaces must be within 400 feet of a business.	Planning Board and Town Meeting.	Fifth Tier
<i>Building and Corporate Signage Visibility</i>	Many businesses want locations visible from a Highway. To improve the commercial marketability of development sites, the Town should consider increasing site and building visibility from Route 3.	Planning Board and Town Meeting.	Fifth Tier

Table 14 - Plymouth Industrial/Commercial/Office Land Study Implementation Strategies

Actions	Comment	Authority	Priority
<i>INFRASTRUCTURE STRATEGIES</i>			
<i>Sewer Tie-in Fee</i>	<p>A number of businesses have stated that they did not locate in Plymouth or expand their operations in Plymouth because of the high sewer tie-in fee.</p> <p>A review of the existing fee schedule and payment scheduled should be conducted.</p>	Board of Selectmen and Department of Public Works	First Tier
<i>Seek state and federal grants for road and infrastructure improvements</i>	<p>The MassWorks Infrastructure Program provides a one-stop shop for municipalities and other eligible applicants seeking public infrastructure funding to support economic development. The Program represents an administrative consolidation of six grant programs:</p> <ul style="list-style-type: none"> • Public Works Economic Development (PWED) Grants • Community Development Action Grant (CDAG); • Growth District Initiative (GDI) Grants • Massachusetts Opportunity Relocation and Expansion Program (MORE) • Small Town Rural Assistance Program (STRAP) • Transit Oriented Development (TOD) Grant Program <p>Federal funds are primarily distributed through the Transportation Improvement Program (TIP)</p>	Department of Public Works and Old Colony Planning Council	Second Tier
<i>Direct Capital Improvements to Economic Development Areas</i>	Investing in the infrastructure serving Plymouth’s economic development areas should be given a high priority for funding.	Board of Selectmen, Department of Public Works, Capital Outlay Committee and Town Meeting	Fourth Tier

Table 14 - Plymouth Industrial/Commercial/Office Land Study Implementation Strategies

Actions	Comment	Authority	Priority
<i>Improve Plymouth's Public Transportation System</i>	Create a desirable placework and a workforce accessible area by providing a range of transportation opportunities for employees.	Massachusetts Bay Transit Authority (MBTA), Greater Attleboro Taunton Regional Transit Authority (GATRA) and Plymouth and Brockton Street and Railway, Co.	Fourth Tier
<i>Develop a coordinated and uniform street and traffic signage program.</i>	Uniform signage to re-enforce the sense of place.	Board of Selectmen/Planning Board/Private /Department of Public Works Property Owners	Fourth Tier
<i>Road improvement work should include landscape elements consistent with existing environment.</i>	Landscape improvements will further define the identity of a business area.	Board of Selectmen/Planning Board/Private /Department of Public Works, Capital Outlay Committee and Property Owners	Fifth Tier
<i>Improve the appearance, landscaping and signage within Plymouth industrial and commercial areas</i>	Landscaping, uniform signage and well maintained infrastructure will create an inviting and aesthetically pleasing entrance to such areas. Invest in and expand infrastructure including parking, decorative lighting, signage, street furniture, landscaping, drainage, utilities and paving.	Department of Public Works, Capital Outlay Committee, Private Property Owners and Industrial Park and Commercial Associations	Fifth Tier

PLYMOUTH INDUSTRIAL/COMMERCIAL OFFICE LAND STUDY

Table 14 - Plymouth Industrial/Commercial/Office Land Study Implementation Strategies

Actions	Comment	Authority	Priority
<i>Improve pedestrian access to and within Plymouth's Industrial Parks</i>	Construct sidewalks and walkways connecting businesses to: <ul style="list-style-type: none"> • satellite parking areas, • other businesses; and • abutting neighborhood. 	Department of Public Works and Massachusetts Department of Transportation	Fifth Tier
PERMITTING STRATEGIES			
<i>Create Permit Ready Sites</i>	Working with the Plymouth Economic Development Foundation, create pre-approved permit ready sites.	Planning Board, Board of Selectmen, Plymouth Area Economic Development Foundation and Town Meeting	First Tier
<i>Reduce the number of Project Review Meetings</i>	Projects requiring special permits are reviewed by a number of committees (Planning Board, Design Review Board, Village Steering Committees, Historic District Commission, and Zoning Board of Appeals). Projects in the North Plymouth Industrial Park are reviewed by both the West Plymouth and North Plymouth Steering Committees. Applicants are required to bring attorneys, engineers and architects to each of these meetings which represents a significant cost. The Town should consider reducing or combining the number of required meetings	Board of Selectmen and Planning Board	First Tier
<i>Streamline Town Meetings Zoning Bylaw Amendment Review Process</i>	Between 20 to 30 pre-Town Meeting meetings are required to present changes to the Zoning Bylaw to Town Meeting. This represents hundreds of hours of time to prepare for and attend such meetings. This process severely limits the number of changes that Town Officials are able to initiate. It also makes the process cost prohibitive for business owners seeking a change by petition.	Precinct Chairs, Board of Selectmen, Planning Board and future Charter Review Commissions.	First Tier
<i>Continue to Improve Support for Economic Development</i>	Plymouth Area Economic Development Foundation provides excellent economic development support. The Foundation should continue to research other successful economic development models in the region and nation. Additional strategies and tools found to be successful in other areas should be considered and implemented.	Plymouth Area Economic Development Foundation and Town Meeting	Second Tier

Table 14 - Plymouth Industrial/Commercial/Office Land Study Implementation Strategies

Actions	Comment	Authority	Priority
<i>Examine District Improvement Financing (DIF) Mechanisms</i>	<p>DIF enables municipalities to pay for the public works and infrastructure necessary to attract growth by pledging the future incremental tax revenue resulting from growth within a designated area to service bond financing obligations.</p> <p>DIF is NOT a tax abatement tool, a new tax, and does not increase future taxes. Nor does DIF reduce or redirect <i>current</i> property taxes. And</p> <p>Property owners in the designated district do not pay additional fees; rather a portion of the real estate taxes from the new development goes to a dedicated fund to pay off the bonds.</p>	Plymouth Area Economic Development Foundation and Town Meeting	Fourth Tier
OTHER STRATEGIES			
<i>Expanding the Town's Marketing Efforts</i>	The Economic Development Foundation actively markets commercial and industrial properties and buildings in Plymouth. The Foundation should continue to explore options to expand its marketing efforts.	Plymouth Area Economic Development Foundation	Second Tier

TRAFFIC IMPACTS

The Old Colony Planning Council has prepared a companion document entitled “Plymouth Industrial Expansion Impact Study.” This report identifies potential traffic impacts that could result from the future development of industrial and commercial land uses in the town. The report focuses on three areas.

- Commerce Way / Plymouth Industrial Park
- Long Pond Road at Route 3 Exit 5 (Shops at 5; Camelot Industrial Park)
- Hedges Pond Road (Cedarville)

Three specific scenarios of new development were evaluated for traffic impacts and determination of necessary mitigation. The following describes the scenarios evaluated for development impacts at each focus area:

- Low Scale: Up to 500,000 Square Feet of New Development
- Moderate Scale: Up To 1,000,000 Square Feet of New Development
- Large Scale: Up To 1,500,000 Square Feet of New Development

The major findings of this report are:

Commerce Way / Plymouth Industrial Park

Low Build Scenario (Up To 500,000 Square Feet Development)

Without mitigation, the following intersections will experience failing levels of service during the weekday afternoon peak commute hour:

- Commerce Way at Cherry Street
- Commerce Way at Colony Place and Christa McAuliffe Boulevard
- Industrial Park Road at Christa McAuliffe Boulevard / Resnik Road
- Carver Road at Plympton Road (Route 80)

Mitigation for improving future traffic conditions to acceptable levels of service could cost between \$2,000,000 and \$4,750,000.

Medium Build Scenario (Up to 1 Million Square Feet Development)

The level of service at the intersection of Commerce Way at Colony Place and Christa McAuliffe Boulevard will continue to worsen and experience failing levels of service during peak demand hours with future development.

The existing infrastructure along with the recommendations prescribed with the 500,000 square feet threshold will support acceptable levels of service at all other study area intersections with up to one-million square feet of new development.

High Build Scenario (Up to 1.5 Million Square Feet Development)

The existing ramp system between Route 44 and Commerce Way will experience congestion during peak demand hours when new development approaches 1.5 million square feet. In particular, the ramps for Route 44 Westbound will experience failing levels of service. Existing drainage and storm water facilities located immediately adjacent to the ramps, along with the Commerce Way overpass and its fixed width prevent major expansion to the existing ramp

infrastructure. Constructing new ramps on the eastern side of Commerce Way (in an area currently occupied by private property) is likely the best alternative for significant capacity improvements to the ramp system.

Mitigation for improving future traffic conditions to acceptable levels of service could cost between \$12,000,000 and \$14,750,000. Even with these improvements, traffic delays at the Commerce Way at Colony Place/ Christa McAuliffe Boulevard could be excessive.

Long Pond Road at Route 3 Exit 5 (Shops at 5; Camelot Industrial Park)

Low Build Scenario (Up To 500,000 Square Feet Development)

Without mitigation, the following intersections will experience failing levels of service during the weekday afternoon peak commute hour:

- South Street at Obery Street
- Long Pond Road at Shops at 5 Way

Mitigation for improving future traffic conditions to acceptable levels of service could cost between \$1,100,000 and \$3,100,000.

Medium Build Scenario (Up to 1 Million Square Feet Development)

The intersection of Long Pond Road at Camelot Drive will experience failing levels of service during peak demand hours when new development approaches one-million square feet. Based on this analysis, it is recommended that the intersection be reconstructed and signalized, if and when warranted, to accommodate traffic demand. All other intersections in the study area would likely experience acceptable levels of service based on existing infrastructure and the mitigation prescribed with 500,000 square feet of new development.

Mitigation for improving future traffic conditions to acceptable levels of service could cost between \$1,600,000 and \$4,100,000.

High Build Scenario (Up to 1.5 Million Square Feet Development)

When new development in the study area approaches 1.5 million square feet, the following intersections will experience failing levels of service:

- South Street at Route 3 Northbound
- Long Pond Road at Route 3 Southbound
- Long Pond Road at Shops at 5 Way

With this level of development, it is likely that major redesign and reconstruction of the ramp system between Long Pond Road / South Street and Route 3 would be required to mitigate traffic demand. This redesign would likely require the addition of a new ramp, on the northeast corner of the junction, between South Street and Route 3 Northbound.

Mitigation for improving future traffic conditions to acceptable levels of service could cost between \$12,600,000 and over \$16,000,000.

Hedges Pond Road (Cedarville)

Low Build Scenario (Up To 500,000 Square Feet Development)

All of the intersections in the study area have a level of service rating of 'F' during the peak demand hours under existing conditions. Future growth, without mitigation, will further increase delays and congestion levels in the area. Capacity improvements would likely be needed on Hedges Pond Road for any substantial new development. The existing design (narrow travel lanes, lack of shoulders) of Hedges Pond Road would likely be inadequate to support an increase of 7,000+ more vehicles

Mitigation for improving future traffic conditions to acceptable levels of service could cost between \$7,600,000 and \$11,500,000.

Medium Build Scenario (Up to 1 Million Square Feet Development)

With the mitigation prescribed at the 500,000 square feet level of development, the roadway network continues to experience acceptable levels of service up to one-million square feet.

High Build Scenario (Up to 1.5 Million Square Feet Development)

When new development in the Cedarville study area approaches 1.5 million new square feet, the intersections of Herring Pond Road at Route 3 Southbound and State Road (Route 3A) at Hedges Pond Road will experience significant delays. Further capacity enhancements of the Route 3A at Hedges Pond Road intersection would likely be needed. With 1.5 million square feet of new development, a new ramp system between Hedges Pond Road and Route 3 may be necessary to relieve congestion at the existing Exit 2 interchange.

Mitigation for improving future traffic conditions to acceptable levels of service could cost between \$17,250,000 to well over \$22,000,000.

14. MAP LIBRARY

As part of the Industrial/Commercial/Office Land Study, the Committee reviewed a number of maps showing natural constraints, infrastructure, land use patterns and land ownership. These maps were used to assist in the decision making process and in drafting the recommendations included in this study. The following is a library of the various plans used by the committee. Please note that due to Plymouth's size, a 103 square miles, mapping always poses a challenge. Many of the finer details are lost when using 11" by 17" plan size (the largest paper size that readily fits into a report).

The following maps are included in this Library:

- Map #1 Existing Commercial and Industrial Zones
- Map #2 Developable Industrial Lands and Municipal Water
- Map #3 Developable Industrial Lands and Municipal Wastewater
- Map #4 Developable Industrial Lands and Wetlands
- Map #5 Developable Industrial Lands and Priority Habitat
- Map #6 Developable Industrial Lands and Plymouths Wells & Aquifer
- Map #7 Town, County, State, Federal and Non-profit Lands
- Map #8 Developable Industrial Lands and Residential Uses
- Map #9 What's Left (Developable Industrial Lands and Undeveloped Residential Land)
- Map #10 Potential Rezoning Strategies

Map #1 Existing Commercial and Industrial Zones

Plymouth's existing commercial and industrial zoning districts are identified on Map #1. The majority of the land zoned for commercial and industrial uses are located along the Route 3 and Route 44 corridors adjacent to interchanges. Other areas include Plymouth Airport on South Meadow Road, Entergy Nuclear Power Plant or Rocky Hill Road, Manomet Village Center, the Downtown/Harbor District, North Plymouth Village and Cordage Park. The majority of the Town (94%) is zoned residential or located within the Myles Standish State Forest.

Map #2 Developable Industrial Lands and Municipal Water

Map #2 focuses on the non-retail commercial land. It identifies land that according to Assessors records is Developable and Potentially Developable (development constraints exist such as wetlands, limited access, and easements). Two other areas with significant commercial development, The Pinehills and Plymouth Airport are also identified. To show the proximity of these sites to major highways, interchanges (existing and potential) are identified as well as a half mile and mile radius around each of these interchange. Map #2 also shows the extent of the Town and Pinehills water delivery system. Finally, the chart provides a range of potential buildout outcomes for this land.

Map #3 Developable Industrial Lands and Municipal Wastewater

Map #3 is identical to Map #2 but the municipal wastewater system replaces the municipal water system. Note that the sewer system serves Plymouth Center, North Plymouth, the Plymouth Industrial Park and to a limited extent Long Pond Road. Package wastewater treatment facilities are located at the Airport and the Entergy Power Plant site. The Pinehills is serviced by its own wastewater treatment facility.

Map #4 Developable Industrial Lands and Wetlands

Map #4 is identical to Map #3 but wetlands replace the municipal wastewater system. Wetlands do not represent a major constraint to developing available industrial land.

Map #5 Developable Industrial Lands and Priority Habitat

Map #5 is identical to Map #4 but priority habitat for rare and endangered plant and animal species replaces wetlands. The Airport area is the only industrial area that is significantly constrained by priority habitat.

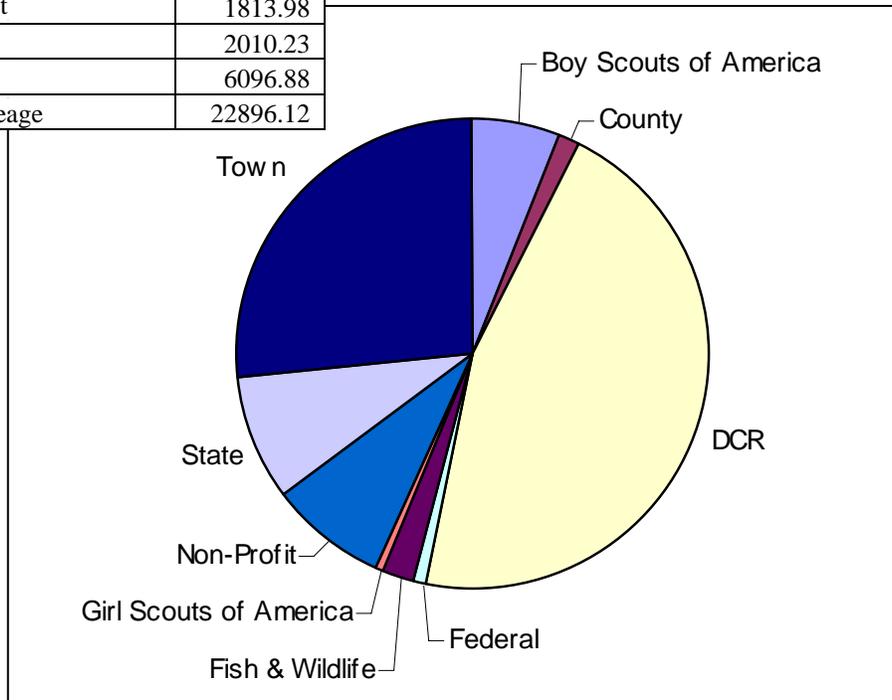
Map #6 Developable Industrial Lands and Plymouths Wells & Aquifer

Map #6 is identical to Map #5 but Plymouth’s aquifer protection and well recharge areas replace priority habitat for rare and endangered species. Significant portions of the available industrial land are located in areas that overlay the recharge areas for Plymouth’s municipal wells.

Map #7 Town, County, State, Federal and Non-profit Lands

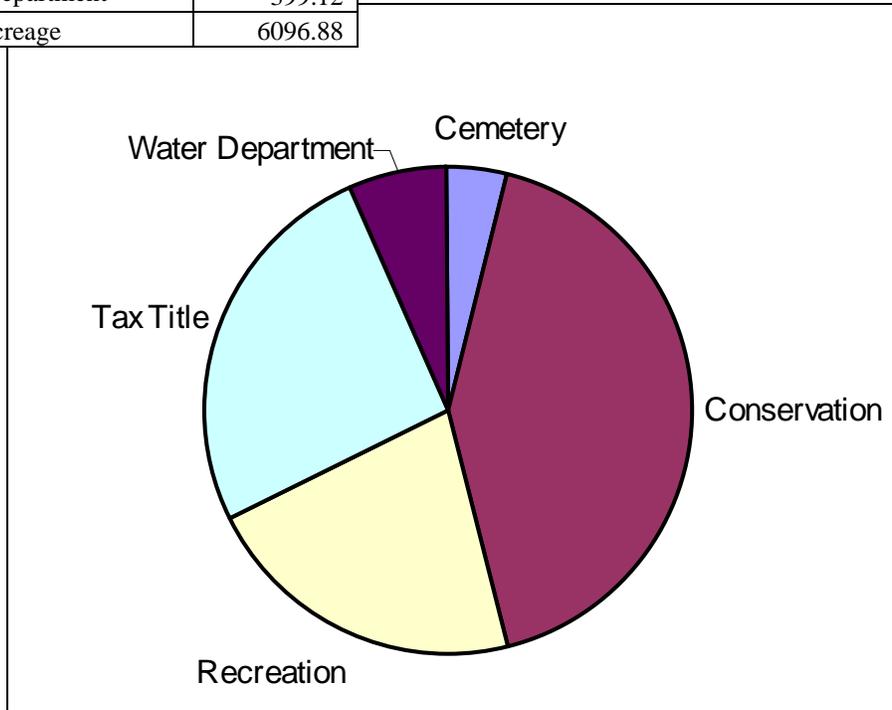
Approximately 35 percent (22,896 acres) of the Town is publicly held and privately held open space. This land is shown on Map #7 and breaks down as follows:

Category	Acreage
Boy Scouts of America	1373.33
County	344.55
DCR	10412.83
Federal	205.27
Fish & Wildlife	502.83
Girl Scouts of America	136.22
Non-Profit	1813.98
State	2010.23
Town	6096.88
Total Acreage	22896.12



The Breakdown of the Town land is as follows:

Category	Acreage
Cemetery	242.30
Conservation	2572.66
Recreation	1292.98
Tax Title	1589.82
Water Department	399.12
Total Acreage	6096.88



Map #8 Developable Industrial Lands and Residential Uses

Map #8 compares the same non-retail commercial land to the residentially developable land in Town. It also includes proximity to major highways as shown on Map #2. Note the separation between existing neighborhoods and the remaining undeveloped land.

Map #9 What’s Left (Developable Industrial Lands and Undeveloped Residential Land)

Map #9 the “What’s Left” map is a composite map of many of the items shown on the previous maps. Gray shaded land is publicly owned, privately owned or developed. The areas with color are the remaining privately owned undeveloped parcels in Town.

APPENDIX

Appendix – Population, Workforce and Site Selection

Forecasts (**Table 14**) predict a significant increase in the elderly population (age 65 and older) with less significance increases for all other age groups through 2030.

Table 14

POPULATION BY AGE GROUP				
Age	1990	2000	2010	% Change (2000 to 2010)
Under 5 years	3,592	3,478	3,187	-8.4%
5 to 9 years	3,569	3,859	3,531	-8.5%
10 to 14 years	3,396	3,789	3,484	-8.0%
15 to 19 years	3,226	3,367	3,495	3.8%
20 to 24 years	2,971	2,513	2,872	14.3%
25 to 34 years	8,070	7,500	6,412	-14.5%
35 to 44 years	7,968	9,040	8,462	-6.4%
45 to 54 years	4,401	7,932	8,840	11.4%
55 to 59 years	1,458	2,664	4,169	56.5%
60 to 64 years	1,447	1,747	4,063	132.6%
65 to 74 years	3,016	2,672	4,544	70.1%
75 to 84 years	1,868	2,170	2,217	2.2%
85 years and over	626	970	1,192	22.9%
Total	45,608	51,701	56,468	9.2%

Source US Census

As shown in **Table 15**, the number of people in the workforce with less than a high school degree dropped significantly between 2000 and 1990 (by 19.5%). Significant increases have occurred in the number of people in the workforce with college education.

Table 15

EDUCATION			
	1990	2000	% Change
Less than High School	4,571	3,678	-19.5%
High School	9,755	11,098	13.8%
Some College	8,156	10,780	32.2%
Bachelors	4,478	6,233	39.2%
Masters & Higher	1,983	2,940	48.3%

Source US Census

PLYMOUTH INDUSTRIAL/COMMERCIAL OFFICE LAND STUDY

Table 15 lists the wages and number of employees for major employment sectors in Plymouth for the years 2003 through 2009.

Table 16

Community Employment and Wages							
	2003	2004	2005	2006	2007	2008	2009 ¹
Total Wages	\$ 750,505,459	\$ 781,326,837	\$ 851,504,977	\$ 888,170,721	\$946,197,055	\$976,995,845	\$227,891,231
Average Weekly Wage	\$724	\$738	\$749	\$758	\$749	\$804	\$775
Establishments	1,407	1,892	1,503	1,542	1,503	1,590	1,574
Average Employment	19,940	20,357	21,865	22,533	21,865	23,381	22,957
Construction	1,010	1,157	1,264	1,210	1,264	1,179	954
Manufacturing	1,215	1,151	1,170	1,356	1,170	1,449	1,222
Wholesale Trade	323	381	577	337	577	309	285
Retail Trade	2,508	3,492	3,072	3,149	3,072	3,622	3,585
Transportation & Warehousing	393	343	343	356	343	420	381
Information	428	401	423	411	423	463	509
Finance & Insurance	617	582	599	597	599	570	550
Real Estate	193	192	221	215	221	186	128
Professional & Tech Support	646	602	701	738	701	683	650
Administrative Services	543	867	832	783	832	666	630
Health Care & Social Services	3,824	4,024	4,302	4,524	4,302	5,034	4,968
Arts & Recreation	1,016	965	866	870	866	838	962
Accommodations & Food Serv	2,045	2,176	2,389	2,543	2,389	2,930	3,118
Agriculture	13	14	19	23	19	27	31
Management of Companies	476	-	-	568	-	334	320
Educational Services	44	49	49	95	49	n/a	n/a
Public Administration	n/a	n/a	n/a	n/a	n/a	1616	n/a
Other	641	638	638	690	638	665	775

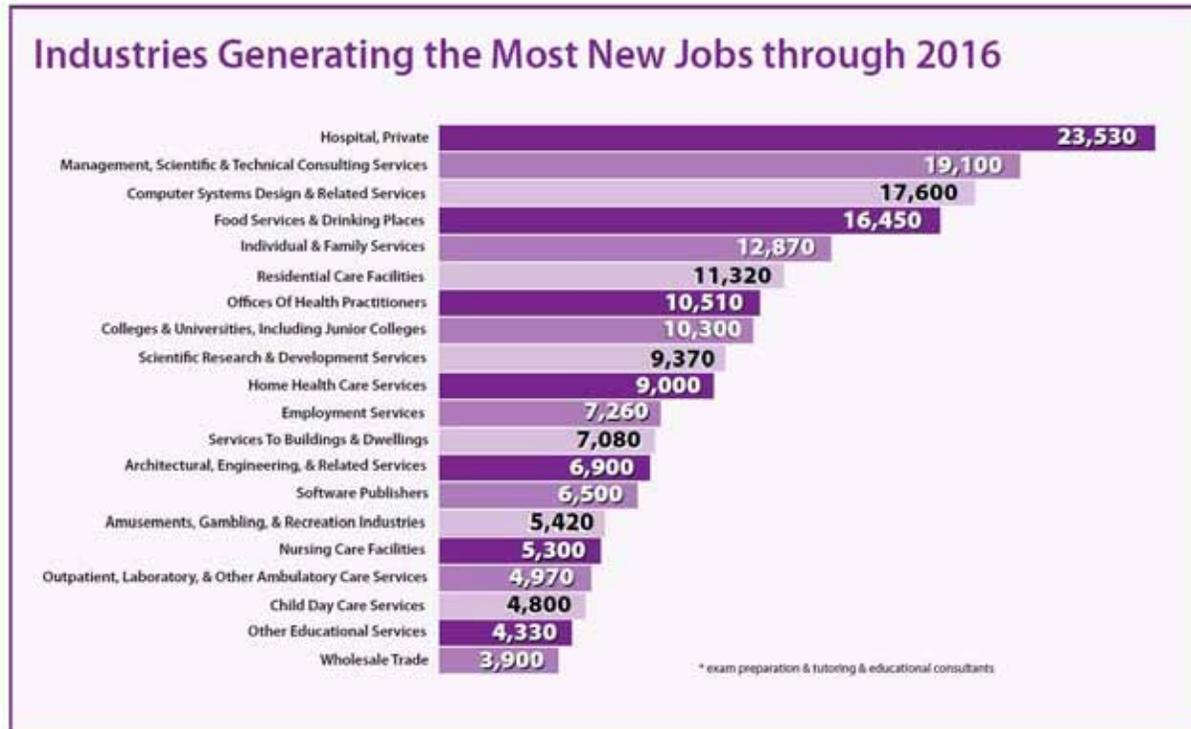
¹ Data for complete year 2009 is not yet available. I used the 3rd quarter (July, Aug, Sept average for 2009 data.

Source: MA Executive Office of Labor and Workforce Development 6/23/10

Compiled by Bruce Hughes, Old Colony Planning Council

The demand for consultants will increase as managers seek advice from outside specialists who are not influenced by company politics. Facing increasingly stiff competition on a global scale, businesses will hire consultants to help them deal with finance, corporate strategy and organization, records management, and logistics¹¹ (See Table 17). Other areas where the use of consultants will quickly expand include human resources, health care, environment and energy, and security and safety.

Table 17



Source Commonwealth of Massachusetts Employment Projections, Executive Office of Labor and Workforce Development

¹¹ Ibid.

Travel to Work (Tables 18 & 19)

Surprisingly, the majority (38%) of Plymouth’s residents also work in Plymouth. Boston (10%) and Kingston (4.9%) are a distant second and third for employment destinations for Plymouth’s workforce. The diverse and unusual locations of other employment destinations are a reflection of an increasingly mobile and technology based work environment.

Looking at where people who work in Plymouth live, again we find that over 50 percent of Plymouth’s jobs are filled by Plymouth residents with residents of nearby towns being the largest other workforce source. Again, the varied home locations of people working in Plymouth are a reflection of a mobile and technology based work force

Table 18
Where Plymouth residents work

Location	Workers	Percent
Plymouth	9631	38.05%
Boston	2565	10.13%
Kingston	1238	4.89%
Quincy	732	2.89%
Brockton	644	2.54%
Norwell	526	2.08%
Wareham	506	2.00%
Duxbury	447	1.77%
Hanover	434	1.71%
Other Mass.	8373	33.08%
Location	Workers	Percent
Rhode Island	75	0.30%
Connecticut	30	0.12%
New York	23	0.09%
New Hampshire	18	0.07%
Delaware	15	0.06%
Pennsylvania	14	0.06%
New Jersey	12	0.05%
Florida	7	0.03%
South America	7	0.03%
Maine	6	0.02%
Georgia	4	0.02%
Tennessee	4	0.02%
TOTAL	25311	100.00%

Source: 2000 Census

Table 19
Where Plymouth Workers live

Location	Workers	Percent
Plymouth	9631	52.01%
Carver	931	5.03%
Kingston	578	3.12%
Marshfield	538	2.91%
Wareham	537	2.90%
Brockton	493	2.66%
Bourne	401	2.17%
Duxbury	366	1.98%
Middleboro	347	1.87%
Other Mass.	4503	24.32%
Location	Workers	Percent
Rhode Island	67	0.36%
New Hampshire	23	0.12%
Michigan	21	0.11%
Florida	16	0.09%
California	16	0.09%
Maine	11	0.06%
North Carolina	11	0.06%
Wisconsin	9	0.05%
New York	3	0.02%
Oregon	3	0.02%
Illinois	3	0.02%
Total	18508	100.00%

Source: 2000 Census

Table 20, Table 21 and Table 22 are tools prepared by the Massachusetts Alliance for Economic Development that could also be used to assist in the site selection process.

Table 20

Regional Resource Assessments & Market Overviews Massachusetts alliance for economic development				
Site Requirements/Potential Concerns vs. Type of Operation				
Description	Office	R&D	Manufacturing	Distribution
Level of Readiness Required	Back Office: within 3 mos. HQ: may opt to build in 12-18 mos.	Within 3 mos. or build on fast track (9-12 mos.)	Within 3 mos. or build on fast track (9-12 mos.)	Within 3 mos.
Overall Image of Site, Park and Building	Important: reflects on company image and helps attract talent.	Important: reflects on company image and helps attract talent.	Varies	Varies
Specialized Space Required	Meeting/Training Spaces	Labs/Pilot Facilities	Certain Processes	
Local Amenities (restaurants, shopping, daycare, etc.)	Important	Important	Varies	
Adequate Parking (urban area)	Important	Important	Varies	
Truck Traffic			Varies	Heavy
Access to Interstate	Commuter access Brand exposure for some Security an issue for others	Commuter access	Truck access (varies by type and size of operation)	Truck access
Public Transportation	Important near metro areas	Important near metro areas	Important for low income employees	
Rail Access			Some operations	Some operations
Reuse Potential for Community	High	Varies	Varies	High
Ability for Company to Easily Liquidate Facility	Back Office: Lease HQ: Lease or own (harder to liquidate due to specialized layouts)	Tend not to build with liquidation as a consideration	Tend not to build with liquidation as a consideration	Tend to be generic buildings that are easier to liquidate
Sewer/Water Requirements		Water quality an issue	Volume varies	
Cost of Energy	Moderate	Moderate	Critical issue	Moderate
Access to University R&D	Important if HQ and R&D are co-located	Local and distance access to university R&D partners	Having access to technical support	



Table 21

Regional Resource Assessments & Market Overviews massachusetts alliance for economic development					
Resource Requirements by Type of Operation					
Resource Requirement	Headquarters	Back Office/ Shared Services	R&D	Manufacturing	Distribution
• Labor: Recruit Local Skills (High School)	Clerical	Customer Serv.		■	■
• Labor: Recruit Local Skills (College)	■	■	■	Some	
• Labor: Recruit From Other Locations*	Frequently	Some	Frequently	Limited	
• Facility Needs	Class A Office	Class A/B/C Office	R&D/Office	Mfg./Office	Warehouse/Office
• Utilities: Water	■	■	High Quality	High Volume Pot.	■
• Utilities: Sewer	■	■	■	High Volume Pot.	■
• Utilities: Electricity	Back-Up Power	Back-Up Power	Back-Up Power	Back-Up Power	Back-Up Power
• Utilities: Gas			Some Operations	■	
• Utilities: Telecom	Broad Band/Back-Up	Broad Band/Back-Up	Broad Band/Back-Up	■	■
• Transportation: Interstate	Within 5 miles	Near	Varies	Near	Near
• Transportation: Air Access	Within 30-45 min.	Within 30-45 min.	Within 30-45 min.		
• Transportation: Rail				Some Operations	Some Operations
• Co-Location Needs			University Partners		
• Operating Cost as an Issue	Low to Moderate	Moderate to High	Moderate	High	High
• Incentives: Training	■	For Some Jobs		■	■
• Incentives: Tax Reduction		■	■	■	■
• Incentives: In-Kind Provisions (roads)	■	■	■	■	■
• Community Responsiveness	■	■	■	■	■

*Quality of Life is an issue: cost of living/housing, education quality, healthcare, etc.

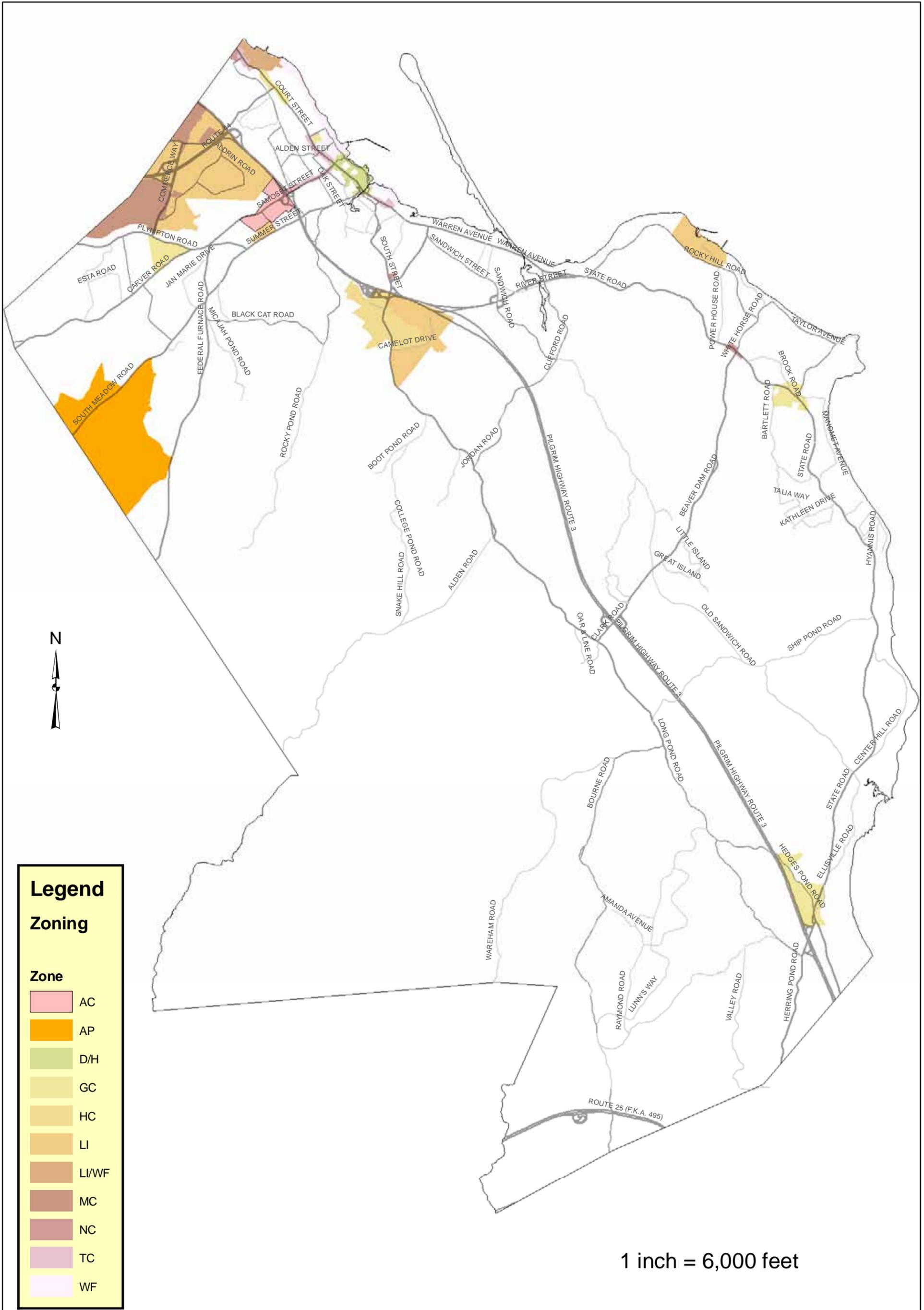
MassEcon
Location is everything.

Table 22

Regional Resource Assessments & Market Overviews Massachusetts alliance for economic development						
Significant Utility Requirements by Target Industry						
Industry/Segment	Water	Wastewater Treatment	Electrical Power	Natural Gas	Broadband/ Telecom	
• Biotech/Pharmaceuticals	High Quality	Quantity	Quantity/Backup	■	■	
• Medical Equipment	■	■	■		■	
• Marine Science	■	■	■		■	
• Computers/Electronics	High Quality	■	High Vol./Backup	■	■	
• Food Processing	High Quality	■	High Volume	■	■	
• Fabricated Metals	■	■	■		■	
• Plastics (Resin/Parts/Products)	■	■	■	■	■	
• Renewable/Alternative Energy	■	■	■		■	
• Aerospace/Defense/Security	■	■	Backup Power		Data Center	
• Institutional Healthcare Services	■	■	Backup Power		■	
• Institutional Education Services	■	■	Backup Power		■	
• University R&D	High Quality	■	Backup Power		Data Center	
• Financial Services	■	■	Backup Power		Data Center	
• Prof/Tech/Creative/IT Services	■	■	■		■	
• Transportation/Distribution	■	■	■		■	
• Hospitality/Rec./Culture/Tourism	■	■	■		■	
• Mgmt. of Companies/HQ	■	■	Backup Power		Data Center	

■ State Target Industry ■ Significant/Special Requirements



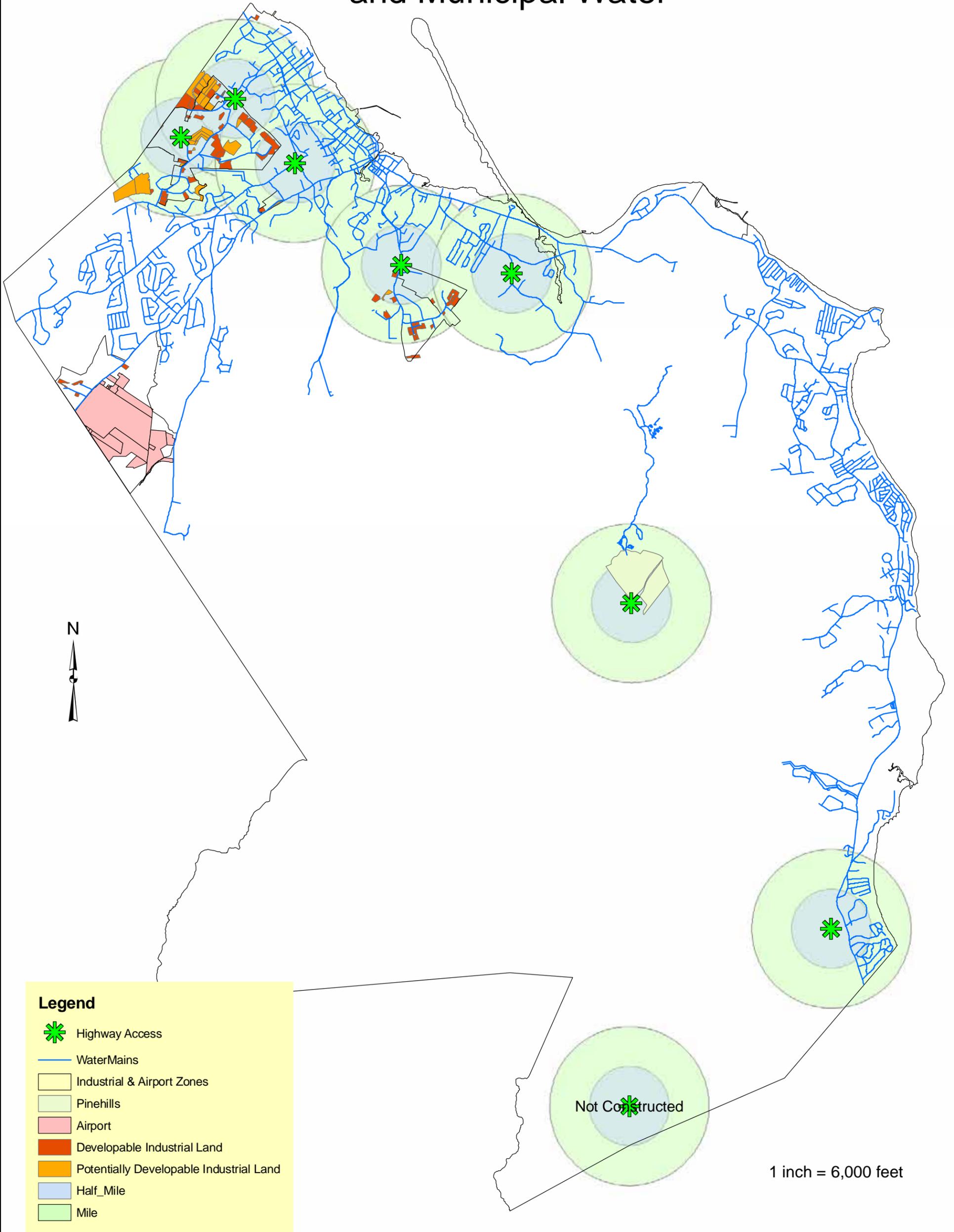


Map # 1

Commercial & Industrial Zoning Districts

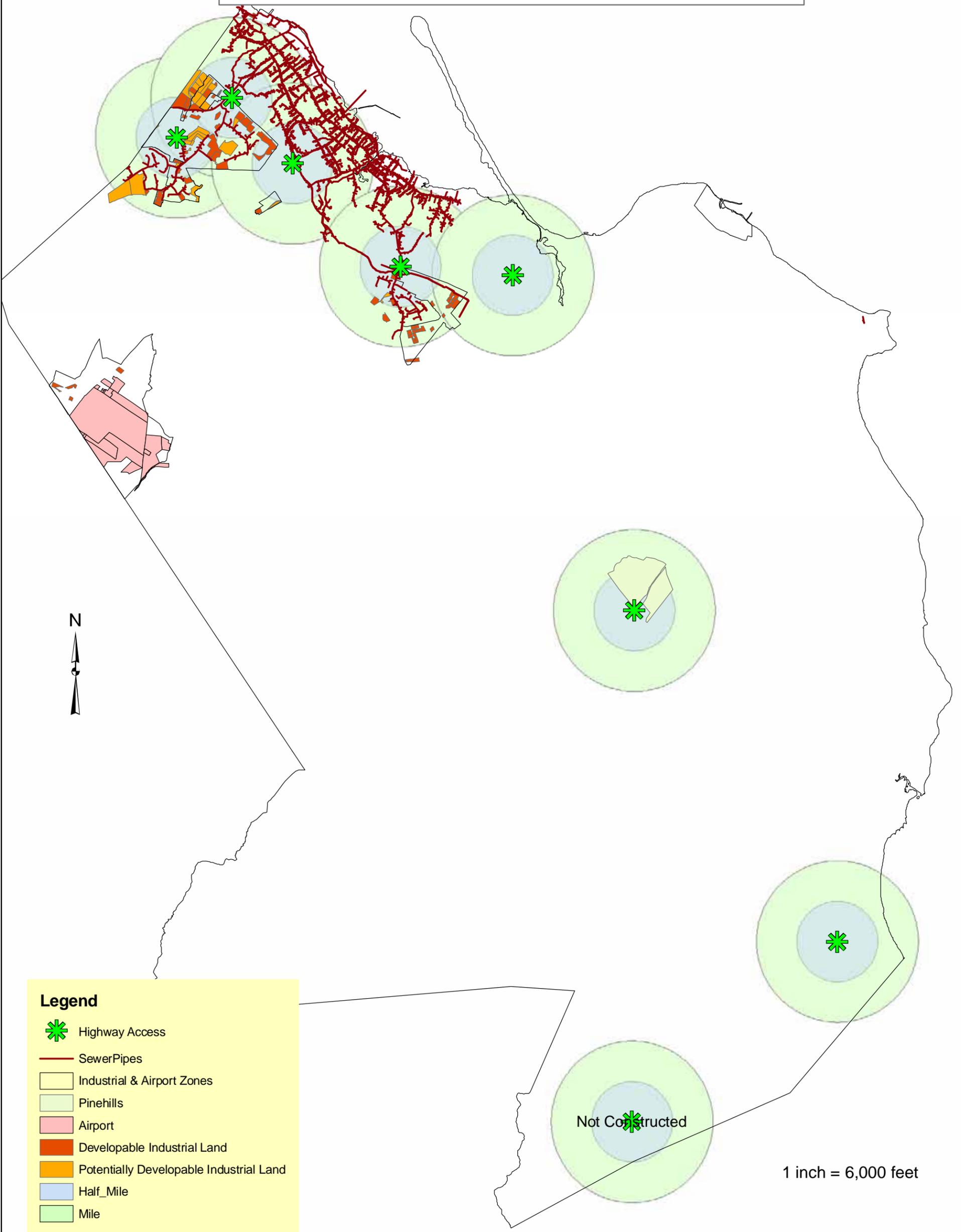
Department of Planning
and Development

Map #2 Developable Industrial Land and Municipal Water



Location	Acres	Parcels	Building Square Footage			
			5%	20%	25%	Staff
Pinehills	229.0	2	498,762	1,995,048	2,493,810	1,100,000
Airport	510.6	19	1,112,087	4,448,347	5,560,434	2,224,174
Developable Industrial	190.4	63	414,598	1,658,392	2,072,989	1,658,392
Potentially Developable Ind.	149.6	40	325,825	1,303,299	1,629,123	325,825
Total	1079.6	124	2,351,271	9,405,085	11,756,357	5,308,390

Map #3 Developable Industrial Land and Municipal Sewer



Legend

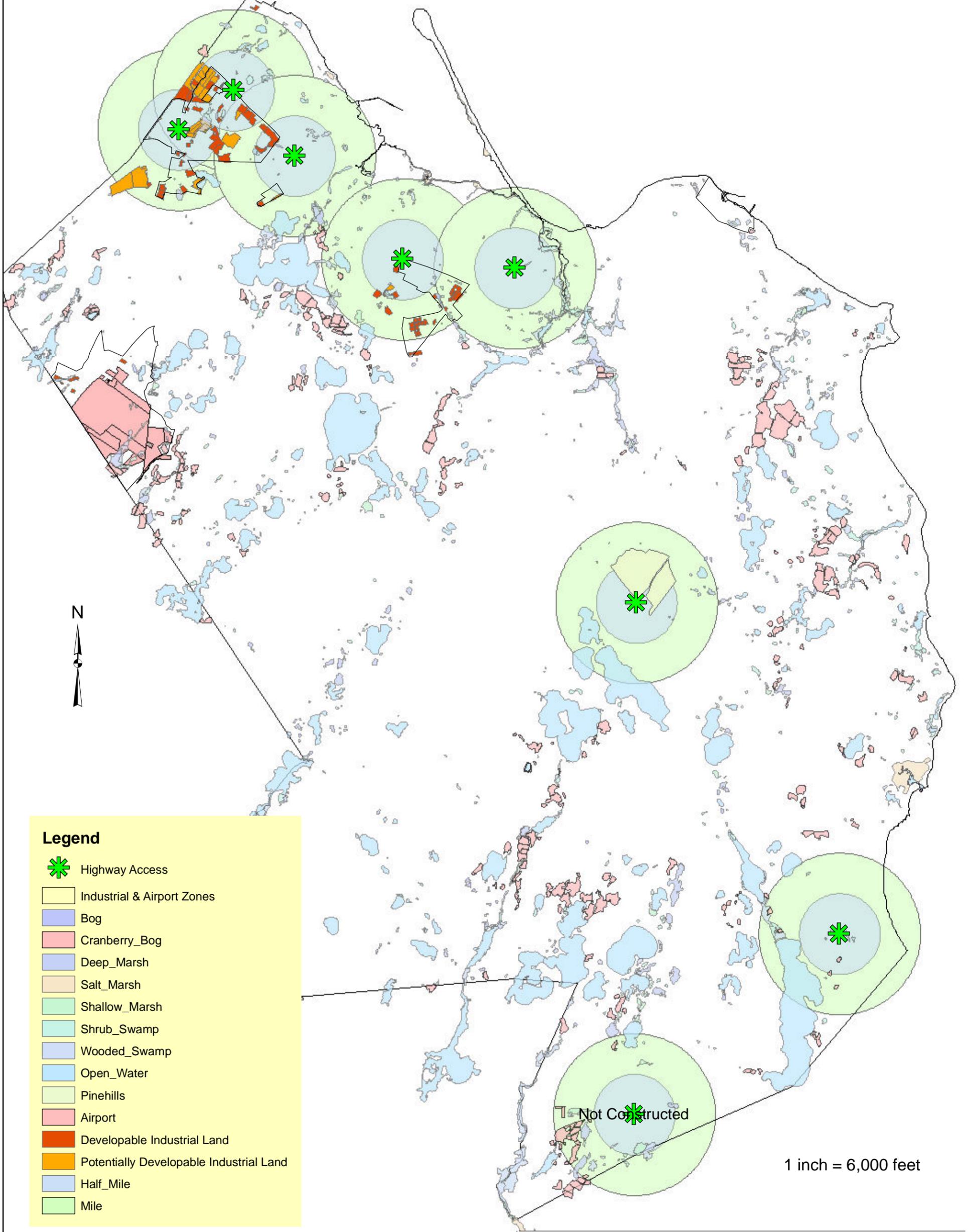
- Highway Access
- SewerPipes
- Industrial & Airport Zones
- Pinehills
- Airport
- Developable Industrial Land
- Potentially Developable Industrial Land
- Half_Mile
- Mile

Not Constructed

1 inch = 6,000 feet

Location	Acres	Parcels	Building Square Footage			Staff
			5%	20%	25%	
Pinehills	229.0	2	498,762	1,995,048	2,493,810	1,100,000
Airport	510.6	19	1,112,087	4,448,347	5,560,434	2,224,174
Developable Industrial	190.4	63	414,598	1,658,392	2,072,989	1,658,392
Potentially Developable Ind.	149.6	40	325,825	1,303,299	1,629,123	325,825
Total	1079.6	124	2,351,271	9,405,085	11,756,357	5,308,390

Map #4 Developable Industrial Land and Wetlands



Legend

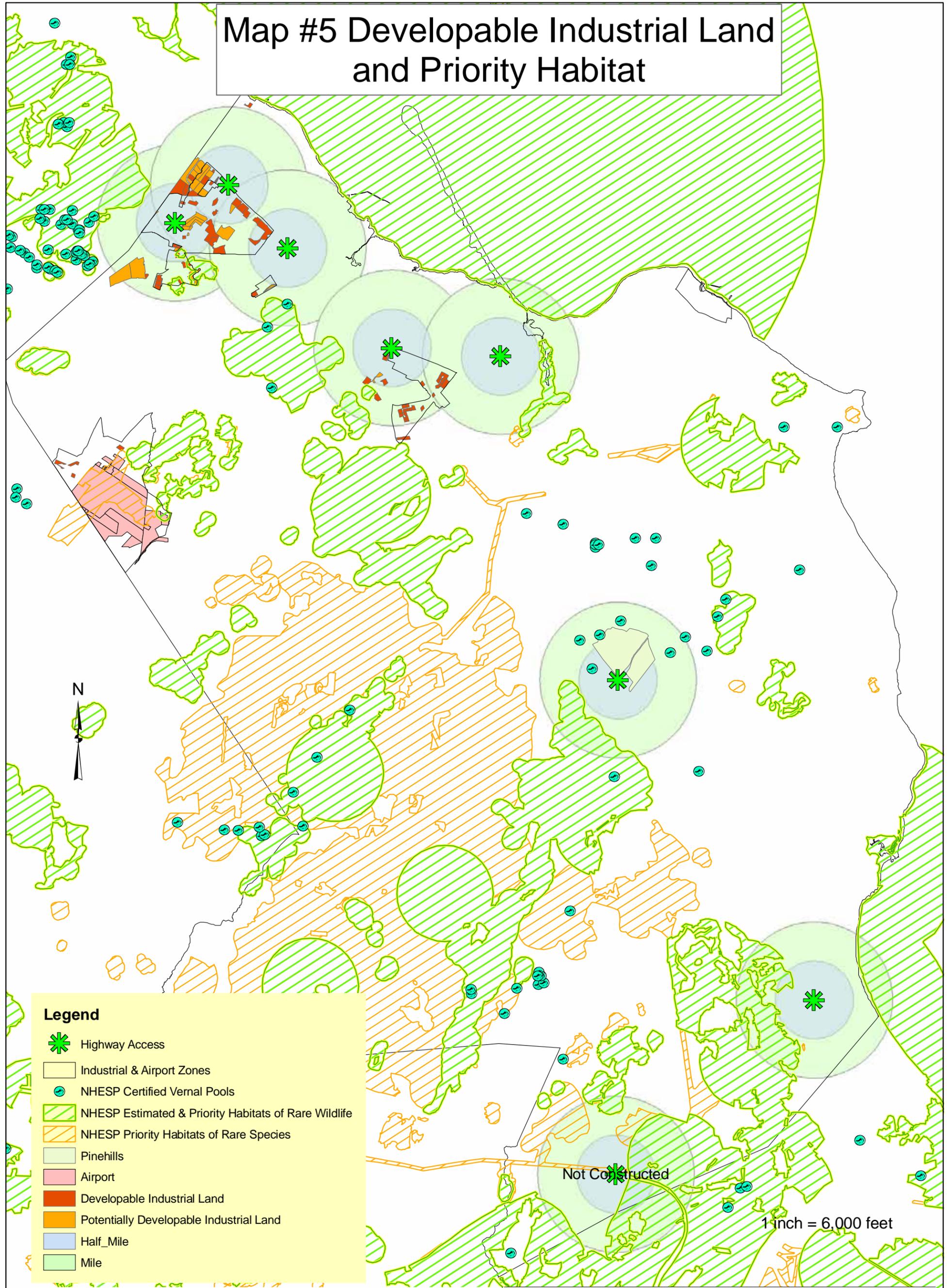
- Highway Access
- Industrial & Airport Zones
- Bog
- Cranberry_Bog
- Deep_Marsh
- Salt_Marsh
- Shallow_Marsh
- Shrub_Swamp
- Wooded_Swamp
- Open_Water
- Pinehills
- Airport
- Developable Industrial Land
- Potentially Developable Industrial Land
- Half_Mile
- Mile

Not Constructed

1 inch = 6,000 feet

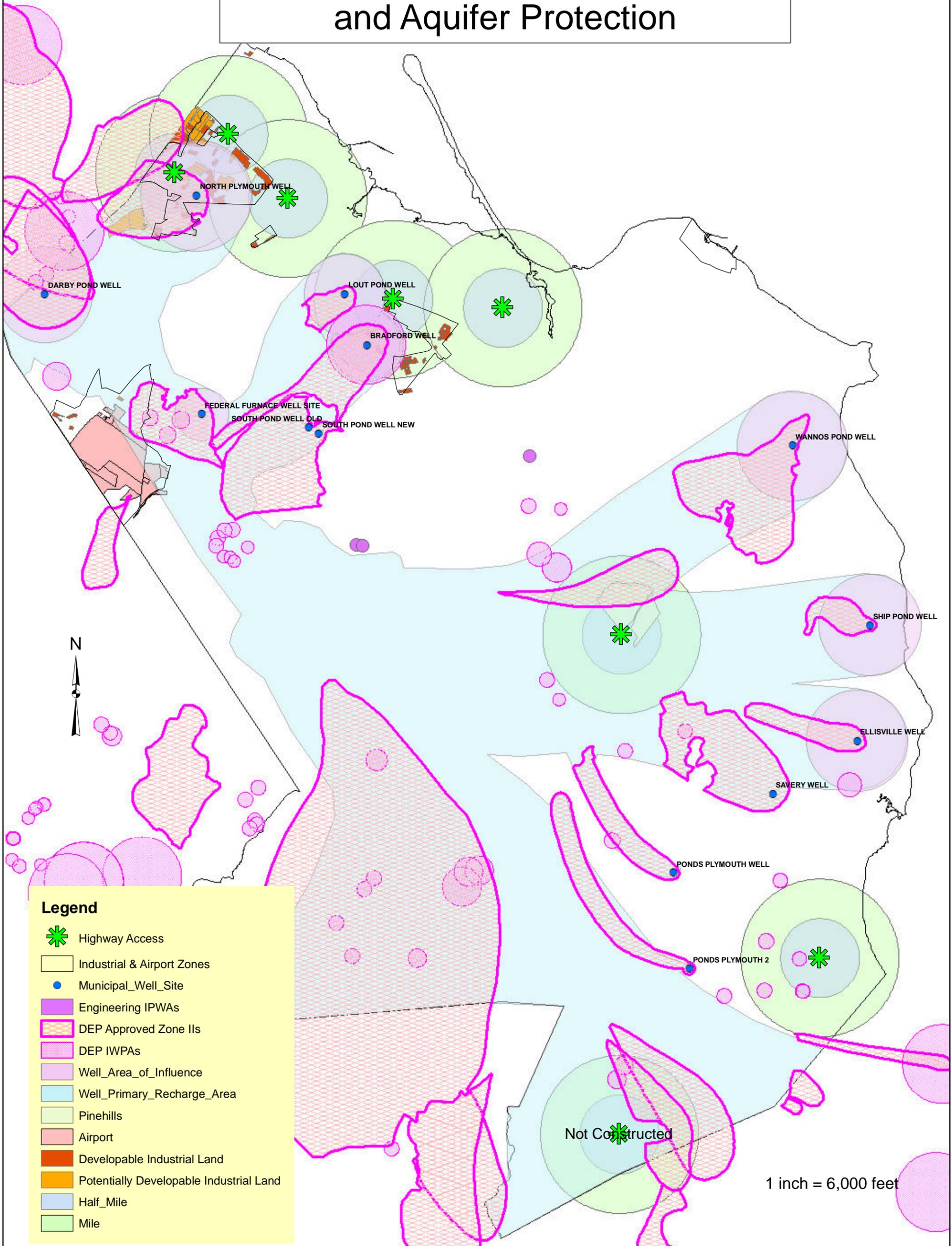
Location	Acres	Parcels	Building Square Footage			Staff
			5%	20%	25%	
Pinehills	229.0	2	498,762	1,995,048	2,493,810	1,100,000
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Developable Industrial	190.4	63	414,598	1,658,392	2,072,989	1,658,392
Potentially Developable Ind.	149.6	40	325,825	1,303,299	1,629,123	325,825
Total	1079.6	124	2,351,271	9,405,085	11,756,357	5,308,390

Map #5 Developable Industrial Land and Priority Habitat



Location	Acres	Parcels	Building Square Footage			Staff
			5%	20%	25%	
Pinehills	229.0	2	498,762	1,995,048	2,493,810	1,100,000
Airport	510.6	19	1,112,087	4,448,347	5,560,434	2,224,174
Developable Industrial	190.4	63	414,598	1,658,392	2,072,989	1,658,392
Potentially Developable Ind.	149.6	40	325,825	1,303,299	1,629,123	325,825
Total	1079.6	124	2,351,271	9,405,085	11,756,357	5,308,390

Map #6 Developable Industrial Land and Aquifer Protection



Legend

- Highway Access
- Industrial & Airport Zones
- Municipal Well Site
- Engineering IPWAs
- DEP Approved Zone IIs
- DEP IWPA
- Well Area of Influence
- Well Primary Recharge Area
- Pinehills
- Airport
- Developable Industrial Land
- Potentially Developable Industrial Land
- Half Mile
- Mile

Not Constructed

1 inch = 6,000 feet

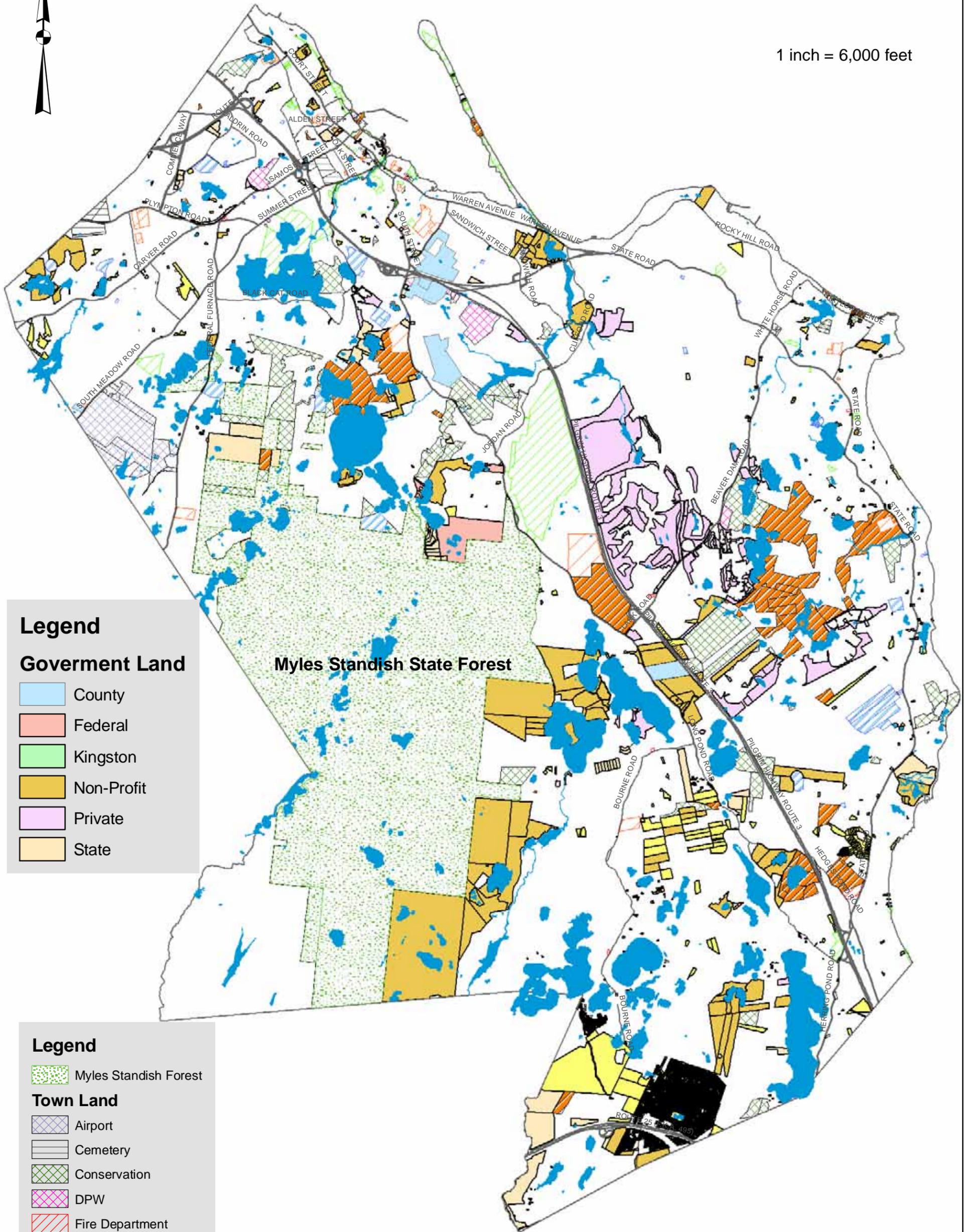
Location	Acres	Parcels	Building Square Footage			Staff
			5%	20%	25%	
Pinehills	229.0	2	498,762	1,995,048	2,493,810	1,100,000
Airport	510.6	19	1,112,087	4,448,347	5,560,434	2,224,174
Developable Industrial	190.4	63	414,598	1,658,392	2,072,989	1,658,392
Potentially Developable Ind.	149.6	40	325,825	1,303,299	1,629,123	325,825
Total	1079.6	124	2,351,271	9,405,085	11,756,357	5,308,390

Map #7 Town, County, State Federal & Non-Profit Lands

N



1 inch = 6,000 feet



Legend

Government Land

- County
- Federal
- Kingston
- Non-Profit
- Private
- State

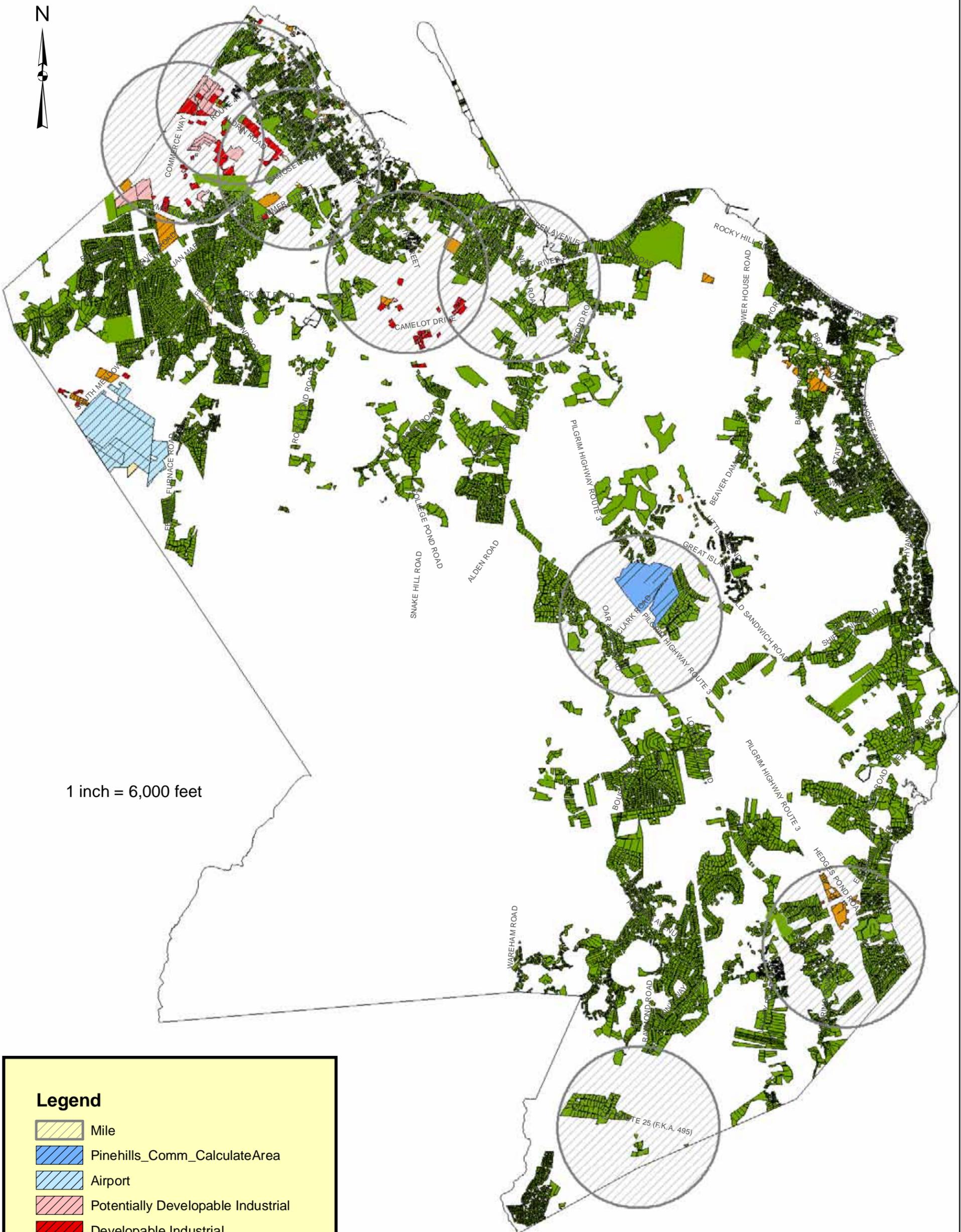
Legend

Myles Standish Forest

Town Land

- Airport
- Cemetery
- Conservation
- DPW
- Fire Department
- General Town
- Library
- Recreation
- School
- Tax Title
- Water

Department of Planning
and Development



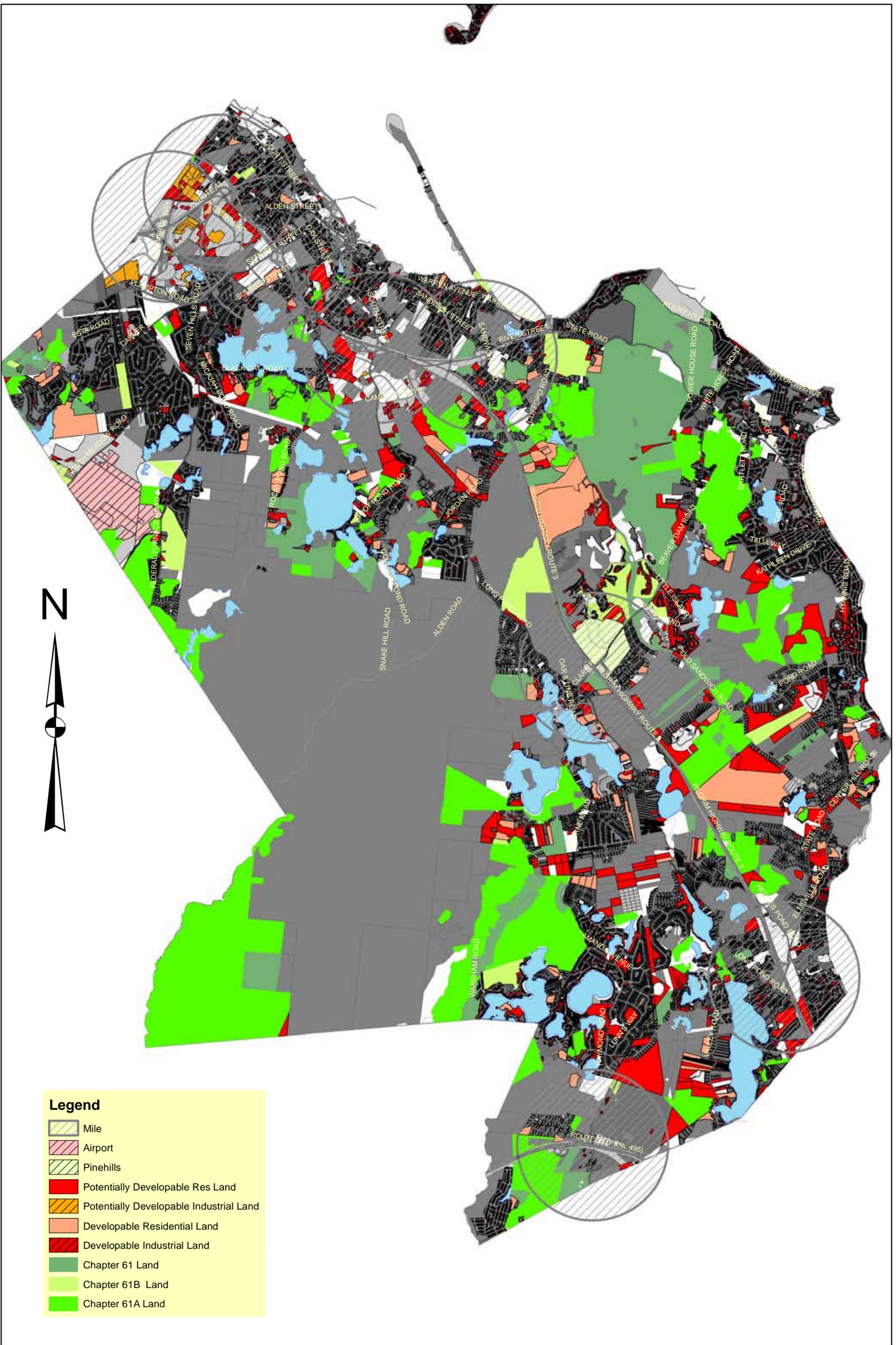
1 inch = 6,000 feet

Legend

-  Mile
-  Pinehills_Comm_CalculateArea
-  Airport
-  Potentially Developable Industrial
-  Developable Industrial
-  Potentially Developable Commercial
-  Developable Commercial
-  Residential Uses

Map #8 Developable Industrial Land & Residential Uses

Department of Planning and Development



Legend

- Mile
- Airport
- Pinehills
- Potentially Developable Res Land
- Potentially Developable Industrial Land
- Developable Residential Land
- Developable Industrial Land
- Chapter 61 Land
- Chapter 61B Land
- Chapter 61A Land

What's Left