

# TOWN OF NEWFIELDS, N.H.

## MASTER PLAN UPDATE

### 1995

#### SECTIONS INCLUDED:

COMMUNITY DEVELOPMENT POLICIES

COMMUNITY PROFILE

COMMUNITY SERVICES AND FACILITIES

PUBLIC UTILITIES

TRANSPORTATION

HOUSING

FUTURE LAND USE

CONSTRUCTION MATERIALS

This report was funded in part by a grant from the Office of State Planning, New Hampshire Coastal Program, as authorized by the National Oceanic and Atmospheric Administration (NOAA), Grant Award Number NA47OZ0237.



## Newfields Master Plan

### *Introduction*

In 1988 the Town of Newfields, NH, Planning Board prepared a master plan for the community in accordance with RSA 674:2-4. That document covered all required topics that were in effect at the time. These included sections dealing with housing issues, transportation, community facilities and future land use. Subsequently, the Board incorporated in 1990 a Water Resources Management and Protection Plan as an amendment to the original document.

In mid 1993 the Planning Board reviewed the master plan and decided to investigate the utility of updating certain aspects of the plan to insure its integrity as a municipal planning tool. Through the funding auspices of the Office of State Planning's Coastal Zone Program (in cooperation with the National Oceanic and Atmospheric Administration) and the Rockingham Planning Commission, the Newfields Planning Board decided to have an update prepared that would include incorporating information from the decennial census as well as recently adopted state requirements regarding local master plans.

The following master plan sections are the result of these efforts. They are meant to be viewed as updates to existing chapters and it should be noted that much of the community master plan remains unchanged. These additions were created to either meet standards for master plans that didn't exist in 1988 (construction materials section) or to update information in the 1988 plan that became woefully outdated (socioeconomic profile and housing statistics).

# COMMUNITY DEVELOPMENT POLICIES SECTION



This report was funded in part by a grant from the Office of State Planning, New Hampshire Coastal Program, as authorized by the National Oceanic and Atmospheric Administration (NOAA), Grant Award Number NA47OZ0237.



## Community Development Policies Section

The foundation of any community master plan is the establishment of specific development policies guiding the actions set forth in the plan, and those subsequently undertaken by the community. The following development policies are expressions of the community's values and objectives, and are reflective of the majority's thoughts on issues that affect the Town of Newfields.

The development policies offered below are derived from the previous master plan, a community wide citizen's attitude survey completed in early 1995, and are also the result of meetings and solicitation from town officials. The following were identified as the most significant issues facing Newfields:

1. Protect the rural character of the Town's residential areas.
2. Improve traffic safety along NH Routes 108, 87, and 85, and Town roads.
3. Meet Housing needs of the Town's young and elderly and provide for Newfields' fair share of regional housing.
4. Improve community services while avoiding an excessive burden on local taxpayers.
5. Protect aquifers, wetlands, forests, open space, and agricultural land.
6. Allow for flexibility in the design and siting of future housing.
7. Protect shoreline of the Squamscott River.
8. Protect Newfield's historic and architectural resources.

The recognition and evaluation of these issues were used in writing Development Policies. These policies are presented below:

**Policy One: The Planning Board seeks to protect Newfield's rural residential character.**

The protection of the quality of the Town's residential areas is central to the master Plan. This statement is made realizing the critical importance of Newfield's industrial operations. The purpose is simply to ensure that the quality of life in Newfield's residential areas is to be protected from incompatible uses. For the most part, such a policy should not affect the Town's industrial district. In some cases, however, slight adjustments to local controls may be warranted.

**Policy Two: The Town should actively seek ways to improve traffic safety along Routes 108, 87 85 and Town Roads.**

Increasing traffic volume, along Route 108 in particular, has exacerbated that corridor's long standing traffic safety problems.

**Policy Three: The Town of Newfields seeks to provide an adequate supply of housing to meet the needs of all its residents and to provide for Newfield's fair share of regional housing demand.**

Community housing policies often have far-reaching implications. The housing issue and growth typically provided the greatest degree of controversy in small communities. The Planning Board recognizes the difficulties many currently face in finding adequate housing and the role local regulations often play in such problems. The Board, therefore, seeks to examine strategies for providing fair and equitable housing opportunities.

**Policy Four: The Town of Newfields seeks to develop improved community services and facilities in a manner that encourages orderly growth but does not place an excessive financial burden on the community.**

This policy represents a recognition that Newfield's public services will be in need of improvement to keep pace with growth. The Board does, however, recognize definite fiscal constraints in providing these services in a relatively short time period.

**Policy Five: The Town should encourage the establishment of conservation areas to protect aquifers, wetlands, forests, agricultural land and open space.**

This policy is based on the results of the community survey which indicated a general interest in protecting natural resources and preserving open space. The Planning Board and Conservation Commission should be charged with the responsibility to develop a strategy for protecting specified land areas. By coordinating open space concerns with the need to protect wetlands, agricultural land and other areas not suitable for development, land could be protected that provides for a variety of uses.

**Policy Six: The Town should seek to reduce adverse impacts of future housing on environmentally sensitive areas by allowing for flexibility in the design and siting of such housing.**

The principal implication of this policy would be to amend current regulations to allow for

flexibility in design and siting.

**Policy Seven: The shorelines of the great Bay Estuary, the Squamscott River, and other major waterways should be protected.**

The river and its immediate environs provide habitat to a wide range of wildlife. As an integral part of one of the richest estuaries in North America, the significance of the riverfront should not be underestimated.

**Policy Eight: The Town of Newfields should ensure the preservation and enhancement of the Town's historic and scenic character.**

Newfields' cultural resources are rich and varied. The Town should exercise the greatest care in insuring the continued preservation of those man-made resources that give Newfields its distinctive and historic character.

# COMMUNITY

## PROFILE

## SECTION



This report was funded in part by a grant from the Office of State Planning, New Hampshire Coastal Program, as authorized by the National Oceanic and Atmospheric Administration (NOAA), Grant Award Number NA47OZ0237.



Table CP-1

POPULATION HISTORY Town of Newfields and Area Communities 1900-1992												
TOWN	1900	1910	1920	1930	1940	1950	1960	1970	1980	1990	1992	
<b>NEWFIELDS</b>	581	624	728	378	542	470	737	843	817	888	909	
Exeter	4,922	4,897	4,604	4,872	5,398	5,664	7,243	8,892	11,042	12,481	12,294	
Epping	607	575	623	577	696	719	1,196	1,784	2,129	2,768	2,781	
Newmarket	1,209	1,215	1,251	1,507	2,137	2,847	5,379	8,011	10,493	12,273	12,172	
Stratham	718	602	542	552	634	759	1,033	1,512	2,507	4,955	5,035	
South Hampton	297	279	230	261	294	310	443	558	660	740	748	
<b>TOTAL</b>	<b>8,037</b>	<b>7,913</b>	<b>7,748</b>	<b>7,886</b>	<b>9,407</b>	<b>10,459</b>	<b>15,588</b>	<b>21,042</b>	<b>26,988</b>	<b>33,365</b>	<b>33,191</b>	
Rockingham Co.	51,118	52,188	52,498	53,750	58,142	70,059	99,029	138,951	190,345	245,845	242,436	

Source: U.S. Census Bureau - 1900-1990; N.H. Office of State Planning Population Estimates, 1992.



Table CP - 3

## POPULATION PROJECTIONS - 1990-2015

## Newfields and Area Communities

TOWN/AREA	1990 (Census)	2000	2005	2010	2015	Average Annual Percent Change			
						1990-2000	1990-2005	1990-2010	1990-2015
Newfields	888	779	764	735	773	-1.30%	-1.00%	-0.94%	-0.04%
Epping	5,162	6,397	6,988	7,469	7,846	2.17%	2.04%	1.86%	1.03%
Exeter	12,481	11,901	11,943	11,916	12,017	-0.47%	-0.29%	-0.23%	0.05%
Newmarket	7,157	7,651	8,057	8,363	8,838	0.67%	0.79%	0.78%	0.72%
South Hampton	740	745	764	771	812	0.07%	0.21%	0.21%	0.43%
Stratham	4,955	7,055	8,066	8,863	9,395	3.60%	3.30%	2.95%	1.44%
Region Total	31,383	34,528	36,582	38,117	39,681	0.96%	1.03%	0.98%	0.70%
Rockingham Co.	245,845	266,218	282,972	296,418	312,103	0.80%	0.94%	0.94%	0.80%
New Hampshire	1,109,252	1,175,262	1,233,157	1,281,541	1,335,817	0.58%	0.71%	0.72%	0.64%

SOURCE: N.H. POPULATION PROJECTIONS- TOTAL POPULATION FOR CITIES AND TOWNS 1990-2015  
N.H. OFFICE OF STATE PLANNING, OCTOBER 1993.

Table CP - 4

**Weekly Average Wages for Newfields and Area Communities  
Manufacturing and Non-Manufacturing - 1980 and 1990**

TOWN/AREA	1980			1990			Avg. Annual % Growth		
	Manuf.	Non-Manuf.	Total	Manuf.	Non-Manuf.	Total	Manuf.	Non-Manuf.	Total
Newfields			NA			\$516			NA
Epping			\$164	\$521	\$263	\$292	NA	NA	5.9%
Exeter	\$276	\$205	\$228	\$770	\$433	\$501	10.8%	7.8%	8.2%
Newmarket	\$207	\$172	\$197	\$560	\$295	\$381	10.5%	5.5%	6.8%
South Hampton			\$311			\$541			5.7%
Stratham			\$206			\$360			5.7%
Rockingham Co.	\$293	\$205	\$233	\$623	\$385	\$429	7.8%	6.5%	6.3%
New Hampshire	\$278	\$211	\$236	\$569	\$388	\$432	7.4%	6.3%	6.3%

Source: NH Department of Employment Security

Table CP - 5

**Income in Newfields and Area Communities  
Median and Per Capita - 1979 & 1989**

TOWN/AREA	- 1979 -		- 1989 -		- 1989 -		Percent of Persons Below Poverty Level
	Median Family Income	Per Capita Income	Median Family Income	Per Capita Income	Median Fam. Income State Rank*	Per Capita Income State Rank*	
NEWFIELDS	\$21,354	\$7,381	\$44,659	\$15,821	174	159	1.7
Epping	\$15,407	\$6,980	\$40,122	\$14,208	139	109	6.4
Exeter	\$19,481	\$7,392	\$42,556	\$18,531	157	202	5.2
Newmarket	\$18,750	\$6,700	\$39,444	\$15,078	136	138	9.4
South Hampton	\$21,062	\$8,523	\$50,331	\$24,837	204	228	0
Stratham	\$23,664	\$8,272	\$57,350	\$23,104	223	221	2.1
Rockingham Co.	\$21,181	\$7,445	\$46,942	\$17,694	--	--	4.4
New Hampshire	\$19,724	\$6,966	\$41,628	\$15,959	--	--	6.4

\* Total of 235 communities in state. The higher the rank, the higher the income.

Source: 1980 Census STF3A; 1990 Census of Population and Housing, 1990 CPH-5-31, Table 9  
Selected Economic Characteristics of New Hampshire Municipalities, NH Office of State Planning,  
June, 1992.

Table CP - 6

Town of Newfields				
Educational Attainment - Persons 18 and over				
	1980		1990	
< 9th grade	48	9.6%	23	3.7%
9th - 12th grade, no diploma	99	19.7%	90	14.4%
high school graduate	168	33.5%	211	33.7%
some college, no degree	88	17.5%	103	16.4%
associate degree	na	na	40	6.4%
bachelor's degree	99	19.7%	123	19.6%
graduate or professional degree	na	na	37	5.9%
Totals	502	100.0%	627	100.0%

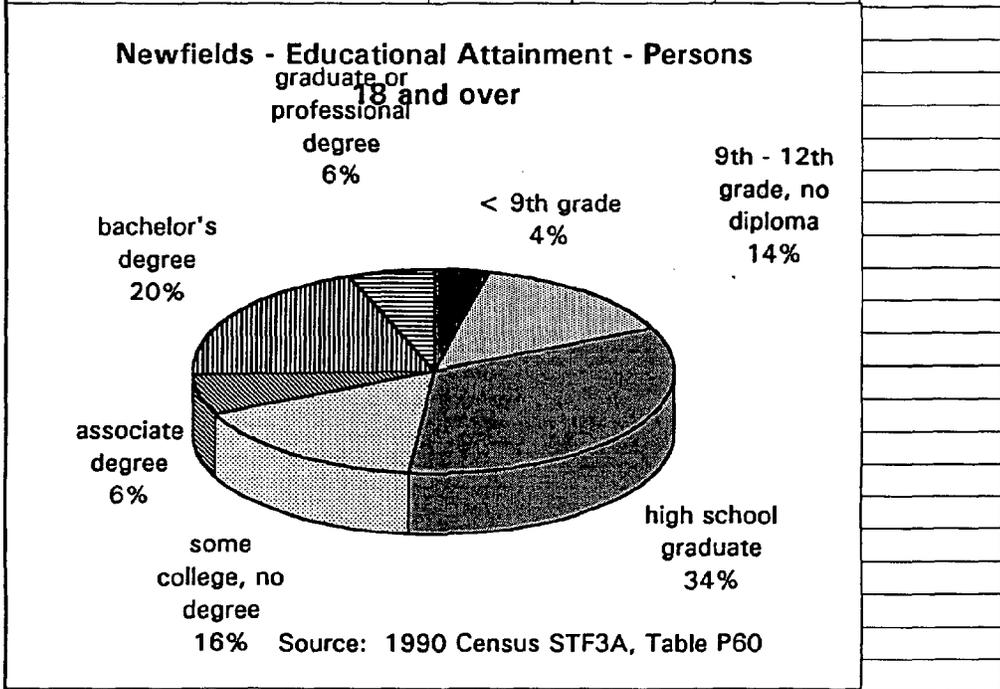
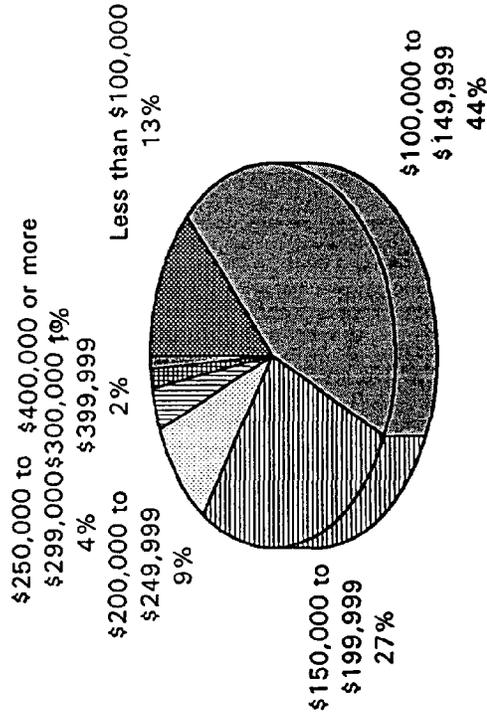


Table CP - 7

Less than \$100,000	24	12.9%
\$100,000 to \$149,999	82	44.1%
\$150,000 to \$199,999	51	27.4%
\$200,000 to \$249,999	17	9.1%
\$250,000 to \$299,000	7	3.8%
\$300,000 to \$399,999	3	1.6%
\$400,000 or more	2	1.1%
	186	100.0%

Newfields - Value of Owner-Occupied Housing Units - 1990



Source: 1990 Census STF 1A Table H23

Table CP - 8

1980-1990 AGE DISTRIBUTION

	1980													1990												
	AGES													AGES												
Town	<5	5-13	14-19	20-24	25-34	35-44	45-54	55-64	65-74	75+	<5	5-13	14-19	20-24	25-34	35-44	45-54	55-64	65-74	75+						
NEWFIELDS	73	104	87	64	152	80	89	80	57	21	69	110	60	59	161	167	97	80	61	34						
	8.9%	12.7%	10.6%	7.8%	18.6%	11.0%	10.9%	9.8%	7.0%	2.6%	7.8%	12.4%	6.8%	6.6%	18.1%	18.8%	10.9%	9.0%	5.7%	3.8%						
Epping	278	503	385	262	723	384	309	289	217	110	444	766	279	345	1110	904	459	377	285	193						
	8.0%	14.5%	11.1%	7.6%	20.9%	11.1%	8.9%	8.4%	6.3%	3.2%	8.6%	14.8%	5.4%	6.7%	21.5%	17.5%	8.9%	7.3%	5.5%	3.7%						
Exeter	618	1407	1217	838	1724	1295	1094	1069	969	793	872	1497	831	727	2315	1999	1301	1000	951	988						
	5.6%	12.8%	11.0%	7.6%	15.6%	11.7%	9.9%	9.7%	8.8%	7.2%	7.0%	12.0%	6.7%	5.8%	18.5%	16.0%	10.4%	8.0%	7.6%	7.9%						
Newmarket	232	420	401	835	802	369	404	376	277	174	335	427	173	462	934	620	239	190	155	76						
	5.4%	9.8%	9.3%	19.5%	18.7%	8.6%	9.4%	8.8%	6.5%	4.1%	9.3%	11.8%	4.8%	12.8%	25.9%	17.2%	6.6%	5.3%	4.3%	2.1%						
Stratham	162	382	313	157	446	386	261	211	129	60	423	718	311	196	967	1062	571	343	253	111						
	6.5%	15.2%	12.5%	6.3%	17.8%	15.4%	10.4%	8.4%	5.1%	2.4%	8.5%	14.5%	6.3%	4.0%	19.5%	21.4%	11.5%	6.9%	5.1%	2.2%						
South Hampdon	34	99	77	39	113	71	80	79	43	25	42	78	62	53	86	179	70	80	69	30						
	5.2%	15.0%	11.7%	5.9%	17.1%	10.8%	12.1%	12.0%	6.5%	3.8%	5.6%	10.4%	8.3%	7.1%	11.5%	23.9%	9.3%	10.7%	9.2%	4.0%						
Region	1363	2816	2403	2156	3848	2524	2157	2025	1649	1158	2143	3519	1654	1789	5488	4753	2667	1990	1695	1402						
	6.2%	12.7%	10.9%	9.8%	17.4%	11.4%	9.8%	9.2%	7.5%	5.2%	7.9%	13.0%	6.1%	6.6%	20.2%	17.5%	9.8%	7.3%	6.3%	5.2%						
Rock. Co.	13542	28326	20117	16231	35886	24425	18220	15789	10986	6823	19937	31647	18258	16356	49114	44045	26099	17789	13208	9392						
	7.1%	14.9%	10.6%	8.5%	18.9%	12.8%	9.6%	8.3%	5.8%	3.6%	8.1%	12.9%	7.4%	6.7%	20.0%	17.9%	10.6%	7.2%	5.4%	3.8%						
N. H. State	62512	128767	103769	83624	157396	107028	90121	84426	61788	41179	84565	139157	89673	82962	204823	182632	112215	88196	71471	53558						
	6.8%	14.0%	11.3%	9.1%	17.1%	11.6%	9.8%	9.2%	6.7%	4.5%	7.6%	12.5%	8.1%	7.5%	18.5%	16.5%	10.1%	8.0%	6.4%	4.8%						

Source: 1980 and 1990 U.S. Census of Population and Housing Table STF1

Table CP - 9

**Employment Commuting Patterns**  
**Town of Newfields - 1990**

<i>Means of Transportation</i>			
Mode	Number Employed	Percent of Total	
Drive alone	339	76.5%	
Car pool	59	13.3%	
Public transportation	2	0.5%	
Walk	16	3.6%	
Other	6	1.4%	
Work at home	21	4.7%	
<b>Total</b>	<b>443</b>	<b>100.0%</b>	
<i>Work Destinations</i>			
Working:	Number Employed	Percent of Total	
In town	94	21.2%	
Out of town	349	78.8%	
In county	324	73.1%	
Out of county	119	26.9%	
In state	364	82.2%	
Out of state	79	17.8%	
<i>Travel Time</i>			
Minutes	Number Employed	Percent of Total	
<5	24	5.7%	
5 - 9	52	12.3%	
10 - 14	60	14.2%	
15 - 19	92	21.8%	
20 - 24	60	14.2%	
25 - 29	32	7.6%	
30 - 34	37	8.8%	
35 - 39	5	1.2%	
40 - 44	8	1.9%	
45 - 59	27	6.4%	
60 - 89	19	4.5%	
90 or more	6	1.4%	
<i>Commuting Destinations</i>			
Total employed living in Newfields: 443			
Work Destination	Number Employed	Work Destination	Number Employed
Newfields	94	Seabrook	10
Exeter	80	Rye	10
Portsmouth	33	Brentwood	9
Hampton	31	Newburyport, Ma	8
Stratham	28	Boston, Ma	8
Dover	25		
Kittery, Me	18		
Durham	10		

Source: 1990 U.S. Census of Population and Housing, STF 3A;  
 Tables P45, P48, P49, and P50.

# COMMUNITY SERVICES AND FACILITIES SECTION



This report was funded in part by a grant from the Office of State Planning, New Hampshire Coastal Program, as authorized by the National Oceanic and Atmospheric Administration (NOAA), Grant Award Number NA47OZ0237.



## Newfields Community Services and Facilities

### FIRE DEPARTMENT

The Town has a volunteer fire department located at 7 Piscassic Road. The service was established in 1935 and currently has twenty-six dedicated volunteers providing protection to the community.

In 1991, the fire station underwent a major renovation and now has three double bays which are two-vehicles deep. In addition, there is a meeting room, training room and communications room on the second floor.

Department vehicles are as follows:

- ▶ 1946 Chevrolet tank truck;
- ▶ 1969 Ford 750 gallon tank, 750 gpm pumper;
- ▶ 1975 International forestry truck;
- ▶ 1987 KME triple combination, 1,000 gallon tank, 1,000 gpm pumper; and
- ▶ 1995 International 2,500 gallon tank, 1,250 gpm pump.

The addition of the new tank truck enables the department to carry a quantity of water when responding to fires outside of the hydrant district.

Ten new Self Contained Breathing Apparatus units were recently put into service, replacing some that were twenty-five years old.

The challenge of keeping fire department costs reasonable is being constantly addressed by planning for the purchase of replacement and/or additional equipment needed to meet the demands of the near and distant future. For the past several years an article on the Town Warrant has appeared to set aside a certain sum in capital reserve for truck replacement.

In 1987 the Planning Board instituted a \$1,000.00 per lot fee on all subdivisions outside the hydrant district. That fee is dedicated to the fire department.

In 1994 the department had 84 fire calls of which 45 were mutual aid calls. There were 11 calls for automobile accidents where the department assists the police department and rescue squad with traffic control and manpower at the scene.

The Town of Newfields is extremely proud of its well-trained, well-equipped and professional department which is well respected within the mutual aid community.

Recommendations

1. Continue the program of capital reserve funding for major equipment purchases.

## **HIGHWAY DEPARTMENT**

The Newfields Road Agent is hired on a contractual basis. His equipment includes two sanders, two trucks and a back loader. In addition, he can hire a local truck and sander at a moment's notice.

One of the first and most important programs that the Road Agent felt was necessary to implement was the establishment of a capital reserve fund for which the Town will vote every year to add an additional twenty-five thousand for resurfacing the Town roads. For the past three years the Town has saved \$75,000 to resurface Bald Hill Road which will be done in conjunction with Walter Biery laying down the final wearing course on Sanborn Drive.

Other streets that may have resurfacing completed within the next five years are Railroad Avenue, Pleasant Street, Swampscott Street, Hilton Avenue and Depot Street. Other work to be completed is regrading and re-graveling of Halls Mill Road.

Since the last Master Plan updating, the Road Agent has been actively improving the drainage systems from the Town Roads. He has repaired and cleaned many swales and ditches in an effort to help maintain the integrity of the road surfaces. Also installed were many street signs that had not been posted for many years. Two Sanborn Drive signs are to be installed by Walter Biery this summer and the two Town Line Signs on Bald Hill Road and Oaklands Road should be installed by the Town.

During the next five years the Town expects to give final acceptance to the following new Roads. Sanborn Drive, Bassett Lane, Hayden Drive, Deertrees Lane, Finn Avenue and possibly Partridge Hill Road and High Rock Lane. The Town plans on making an accurate inventory of all town roads. Once the inventory is complete, with a cost per mile, the Town will be able to anticipate more accurately budget increases when additional Town roads are accepted.

### **Recommendations**

1. Prepare a town-wide roadway inventory to better allow for the programming of roadway improvements.
2. Continue the use of capital reserve financing for roadway improvements.
3. Continue efforts to improve maintenance program of drainage facilities in town (culverts, ditches, swales, etc.)
4. Formalize a street signage program for Town.
5. Resurface Bald Hill Road, Railroad Avenue, Pleasant Street, Swampscott Street, Hilton Avenue, and Depot Street.

6. Regrade and regravels Halls Mill Road.

### NEWFIELDS ELEMENTARY SCHOOL

The present capacity of Newfields Elementary School (NES) is 120, averaging 20 students per classroom. The current enrollment of NES is 93 students. The New Hampshire Code of Administrative Rules regarding classroom size sets the standard at 900 square feet. None of our classrooms meets this standard.

The School Board adheres to a state guideline of a maximum of 25 to 1 student/teacher ratio although there is no stated district policy. The present average ratio is approximately 16 to 1.

The most recent assessments of the condition of the school facility were conducted by the Facility Planning Committee and the New England School Development Council (NESDEC). Both assessments described the limitations of the facility with regard to program delivery specifically; the need for space for a physical education program, hot lunch program, general assembly for school wide presentations and performances; the need for a larger library; the need for art/music teaching stations; the need for storage space for instructional materials and maintenance equipment; the need for a health station to administer to children who are ill. In addition to these program needs, the facility is out of compliance with the regulations set forth by the Americans with Disabilities Act with regard to handicap accessibility.

While the school enrollment is presently fewer than its capacity of 120, the facility is not equipped to handle its present program needs. An increase in student population would mean a decrease in usable space for other programs. At present the school does not meet the space needs for programs such as special education, physical education, computer education, etc.

The staff at NES consists of 5 full-time classroom teachers, 2 half-time classroom teachers, 1 half-time principal, 1 full-time special education teacher, 1 art teacher (1 day a week), 1 music teacher (1 day a week), 1 physical education teacher (1 day a week), 1 speech therapist (part-time), 1 school psychologist (part-time), 1 occupational therapist (part-time), 1 guidance counselor (1 day a week), 1 nurse (1 day a week), 1 custodian (Part-time), and 1 full-time secretary.

Students at NES do not have ready access to a library program. They have very limited physical education, art, and music programs. Because of space limitations, it is very difficult to coordinate a computer program.

The school was built in the early to mid-nineteenth century. It has been added to twice, once in the late 1950s and again in the mid-1960s. Each building project added two classrooms. The school houses a total of six classrooms, one per grade level.

Space for parking has been raised as a concern. Traffic patterns around the school to guarantee

the safety of students are frequently reviewed.

The most recent study was conducted by NESDEC. The report was completed in February 1995.

The School Board presented a proposal for a school addition at the March 6, 1995 School District Meeting. It was not approved. The School Board plans to continue to plan for the improvement of the NES facility.

The NES facility needs to be upgraded in order to provide programs that will prepare students to compete in an information-rich, knowledge-based economy.

#### **Historical Enrollments for the Newfields Elementary School (1985-1995)**

<b>GRADES</b>	<b>1985</b>	<b>1986</b>	<b>1987</b>	<b>1988</b>	<b>1989</b>	<b>1990</b>	<b>1991</b>	<b>1992</b>	<b>1993</b>	<b>1994</b>	<b>1995</b>
<b>1</b>	18	14	11	13	14	12	16	10	13	14	18
<b>2</b>	7	12	12	8	12	14	14	17	12	12	15
<b>3</b>	17	9	12	9	8	13	15	13	20	15	12
<b>4</b>	10	18	10	13	10	9	13	18	11	19	17
<b>5</b>	10	9	18	9	15	10	8	13	16	12	17
<b>6</b>	6	11	9	16	9	14	10	9	13	18	15
<b>TOTAL</b>	<b>68</b>	<b>73</b>	<b>72</b>	<b>68</b>	<b>68</b>	<b>72</b>	<b>76</b>	<b>80</b>	<b>85</b>	<b>90</b>	<b>94</b>

#### **Projected Enrollments for the Newfields Elementary School (1996-2005)**

<b>GRADES</b>	<b>1996</b>	<b>1997</b>	<b>1998</b>	<b>1999</b>	<b>2000</b>	<b>2001</b>	<b>2002</b>	<b>2003</b>	<b>2004</b>	<b>2005</b>
<b>1</b>	15	15	11	17	14	14	14	14	14	14
<b>2</b>	19	16	16	12	18	15	15	15	15	15
<b>3</b>	17	21	18	18	13	20	17	17	17	17
<b>4</b>	13	18	22	19	19	14	21	18	18	18
<b>5</b>	17	13	18	22	19	19	14	21	18	18
<b>6</b>	19	19	14	20	24	21	21	15	23	20
<b>TOTAL</b>	<b>100</b>	<b>102</b>	<b>99</b>	<b>108</b>	<b>107</b>	<b>103</b>	<b>102</b>	<b>100</b>	<b>105</b>	<b>102</b>

Enrollment figures and enrollment projections taken from SAU #16 (Exeter Area) facilities study

prepared by the New England School Development Council and released on February 15, 1995. These projections are most probably low-end estimates that have not adequately taken into account the increased development activity experienced by Newfields in the very recent past. This development activity has resulted in the approval of a significant number of single family house lots that will undoubtedly result in higher school-age populations than the figures above represent.

#### Recommendations

1. Investigate the options for undertaking a major construction program that will address those recommendations cited in the study prepared by the New England School Development Council. These recommendations include the following:

Addition of a multi-purpose room for physical education, hot lunch/cafeteria, assemblies.

Addition of a school administrative office.

Addition to existing or creation of a larger library.

Creation of art and music teaching stations.

Creation of a teacher's room.

Creation of additional storage space.

2. Investigate the possibility of generating additional parking on-site.

#### NEWFIELDS HISTORICAL SOCIETY

The Newfields Historical Society since was established in 1994 with a mission to study and distribute information about the history of the Town of Newfields. Although a young group the following list of tasks details the past and current projects undertaken by the Society. (This list outlines our main activities and is not complete in detail).

#### PAST AND CURRENT PROJECTS

1. Completed paperwork for our incorporation by the State of New Hampshire and received that status in Fall '94. We are currently working on the necessary paperwork to file for our non-profit status with the IRS. Once we have our non-profit status, we will hold a membership drive to attract new members and contributions.
2. Received a grant from the New Hampshire Humanities Council to invite a speaker to

hold a workshop on how to set up an oral history program. Held in July 1994 at the Town Hall.

3. Working on organization of the town's historical papers which until recently have been scattered and unorganized in the Town Hall. We are sorting through them and placing valuable papers in acid-free folders to prevent further deterioration. To aid us in this, we have joined the New England Archivists Association. We hope to attend a workshop that teaches how to establish an archives as soon as we can find one that is appropriate for us.
4. Collecting papers, clippings, maps, artifacts and any other historical information about Newfields in order to establish a permanent archives. The archives will be located, at least temporarily, in the basement of the Town Hall.
5. Working with Bill Tebo on updating and completing his inventory of Newfields' cemeteries and graveyards. Distributing copies to those interested (e.g. Stratham Historical Society, Exeter Public Library, N.H. Historical Society, Exeter Historical Society have all expressed interest in having a copy).
6. Cleaning and repairing gravestones in the towns cemeteries and graveyards. The First Parish Cemetery is almost complete. (Approximately 80 stones were cleaned and, in some cases, repaired -- many were in pieces and needed to be epoxied).
7. Reprinting the History of Newfields, by Fitts.
8. Worked with the Conservation Commission on their land resources map by providing them with a list of historical sites and buildings in town.
9. Working with Mrs. Mortimer Newlin on nominating her house and property for the National Register of Historic Places (this would recognize the historical importance of the property as the home of one of the founding fathers of New Hampshire). Listing on the National Register does not limit property rights in any way.
10. Exploring with Mrs. Newlin the possibility of placing part of her property in a conservation easement to protect this historical landmark from development.
11. Researched the conservation of the Bellamy eagle that was found on the Town Hall. We have tow estimates and recommendations to restore the eagle (one from the Society for the Preservation of New England Antiquities and one from a private conservator in Cambridge).

#### Recommended Future Activities

1. Setting up an oral history program in Newfields: To record (tape) the stories and folklore of the town by interviewing townspeople (primarily older residents).
2. Inviting speakers to present programs and workshops of interest to our membership and the residents of Newfields.
3. Completion of the Building Survey undertaken in the 1980s by the historical group led by Margery Brooke. The survey established an inventory of the historical buildings in town (homes, churches and public buildings) and the group completed the research on approximately 12 of the sites. We hope to finish this work, but it will take years, even once we have a core group that is interested in doing the research (which is very time consuming).
4. Funding the Bellamy eagle restoration and finding an appropriate place in town to display it (possibly the library).
5. Continuing the repair and maintenance of the old cemeteries and graveyards in town.
6. Trying to interest the state archeologist to perform an archeological dig at the Hilton cellar hole site by the old Hilton graveyard. This site is of equal, if not more, importance than the Thomas Wiggin site in Stratham, where a dig took place this past summer as part of the first annual state archeology week. We have permission from Mrs. Newlin, the property owner, to pursue this.
7. Continue to provide information about the history of Newfields to the townspeople of Newfields and to students at Newfields Elementary School. We hope to become a resource for those interested.

### **PAUL MEMORIAL LIBRARY**

The Newfields Library is located on Main Street (NH Route 85) in the center of Town. The structure was built in 1953 and is generally in good condition. The facility is privately funded and is administered by a three member Board of trustees. The Library is staffed by two part-time employees. The Library is open 12 hours a week. In 1994 the library was visited by 398 patrons. The collection includes 10,000 books and 14 periodicals.

#### **Recommendations**

1. The facility needs additional space for seating and book storage.

2. The Library needs additional shelf space.
3. Although in good overall condition the Library needs to be painted.
4. As the population of the Town continues to increase the Library should consider expanding its service beyond twelve hours per week.

### POLICE DEPARTMENT

Newfields is served by one full-time Police Chief and eight part-time Police Officers. The station is in the lower level of the Town Hall and is connected to the town offices.

The Police Department operates one 1992 Ford, one 1995 Ford and one 1977 Dodge pickup truck. The 1992 Ford has 88,000 miles, the 1995 Ford has 5,000 miles and the 1977 Dodge has 13,000 miles. These cars are to be rotated every three years to prevent expensive maintenance to any of them. Rotating cars every three years will allow for the cruiser to be no older than six years.

Response time is approximately five minutes when officers are on-call. The police department provides patrol coverage from 8:00 a.m. until midnight, at which time the officer goes home and call are taken from there. The need for a second full-time officer is approaching and should be considered soon, especially in light of the increased level of residential development that has occurred in the recent past. The second full-time officer would allow the police department to investigate cases that currently are given to outside agencies due to the shortage of manpower and availability of part-time officers.

The primary concerns of the department are the increase of calls in comparison with previous years and the amount of time that is spent on court work and investigations. In addition, motor vehicle summons' are on the rise as are increases in traffic and criminal investigations.

#### Recommendations

1. Investigate the addition of a second full time police officer to the department.
2. Continue the practice of three year vehicle rotation as a means of getting a useful life of six years from each vehicle.

## TOWN HALL

The Newfields Town Hall is located at 65 Main Street and houses the Office of the Selectmen, the Police Department and the Town Clerk/Tax Collector. The various committees and groups from Town are now using the Town Hall extensively. The Town Hall has even generated a small amount of income with an increase in the number of people wanting to "rent" the Hall for private functions.

Part of this increase in use stems from the completion of some badly needed improvements. During the winter of 1993-94 the Town Hall ceilings which were peeling, were repainted. The next improvement the Town Hall saw was a new heating system installed at a cost of \$25,000. During the winter months of 1994-95 the lower level of the building was renovated to house the Selectmen's Office and the Town Clerk/Tax Collector's Office and a small meeting area. The main hall is used extensively by the Conservation Commission, Planning Board, Boy Scouts, etc. The former Selectmen's office now serves as a meeting room for smaller groups.

The town was given a grant from the Governor's Office of Energy to perform an audit on the Town Hall for energy efficiency. According to Joseph King the engineer performing the audit, this building is a prime candidate to receive additional state funding to improve the efficiency by adding new windows and insulation. Hopefully this can be accomplished within the next five years.

At the Town Meeting in March of 1995, the Town voted to establish a Committee to look at possible uses for the small buildings not currently being used by the Town. These other buildings are known as the "Scout House", the Recycling Shed" and the Old "Hearse House". What the future use will be for these "smaller" buildings remains to be seen.

The Town anticipates increased use of the Town Hall rooms for town and civic meetings. The relocation of Selectmen and Town Clerk offices to the lower level, however provides ample space for these activities well into the future.

### Recommendations

1. Pursue state funding to assist the town in improving the energy efficiency of the Town Hall.
2. Pursue reuse of Town-owned facilities as recommended by the investigative committee established in 1995.

# PUBLIC UTILITIES SECTION



This report was funded in part by a grant from the Office of State Planning, New Hampshire Coastal Program, as authorized by the National Oceanic and Atmospheric Administration (NOAA), Grant Award Number NA47OZ0237.



## **PUBLIC UTILITIES SECTION**

The Town of Newfields is in the enviable position of having both a public water system as well as a public sewer system. All of this in a community of less than 1000 people. Presently the two facilities operate completely separately from one another. However for some time discussion has indicated the utility of merging the two districts. Such discussions are becoming a more realistic dialogue and indications are that the merger of the systems may be on the near horizon.

### **WATER DEPARTMENT**

The original Newfields water system was constructed in 1954, and consisted of two screened sand and gravel wells off Baker street, a distribution system to serve the village area, and a 207,000 gallon water storage standpipe off main street.

Four additional wells have been added to the system since 1954. The water distribution system has expanded over the years, serving Piscassic Road to Dixon Avenue and Otis Road, Exeter Road to Kingston Warren Corporation, and Railroad Avenue. Recently, water mains have been extended to serve the Dunlin Woods Development northwest from Newfields Village.

The Town engaged Hoyle, Tanner & Associates to evaluate the water system in 1990 and recommendations from this report are detailed below.

A new water storage standpipe should be constructed to meet fire storage and future equalization storage requirements. The report indicates that the new storage tank should be incorporated into a high service area to provide water to the Route 85/87 area and to provide water to the downtown area during periods of high demand.

The report recommends the Town test and rehabilitate the existing wells to determine if well yields can be increased through better maintenance of the facilities.

The present water main crossing of the Boston and Maine railroad tracks should be replaced with a new jack sleeve and pipe under the tracks.

An eight inch main should be installed in Hilton Avenue from Pleasant Street to Main Street. This will improve system reliability and will improve fire flows in the Route 108 area in the future.

It is recommended that the Town adopt the water system construction standards included in the HTA report. This will insure that future developer-constructed water main extensions are in compliance with Town requirements.

The Town should also adopt a minimum allowable replacement main diameter of 8 inches. Repairs and minor replacements of 6" diameter and smaller pipe can still be made, but all larger replacements and extensions should be made with at least 8 inch diameter pipe.

A new 8 inch pipe has more than twice the water carrying capacity of a new 6" diameter pipe.

It is recommended that well water samples be collected to evaluate the corrosivity of the supplies. This will include testing of each sample to determine the Langlier Saturation Index (LSI), a commonly used measure of corrosivity, and determination of any corrosion control treatment requirements. It should be noted that most New Hampshire water supplies require corrosion control treatment.

#### Route 85/87 Service Area

Given the existing system hydraulic grade elevation, it is not possible to provide municipal water service to the entire land area between Routes 85 and 87, west from the village area. Lots above an elevation of 95 feet cannot be serviced from the existing system hydraulic grade line.

It is possible to tie the Goldsmith property wells into the existing system by construction of a cross-country main from the well field to Finn Avenue in the Newfields Farms subdivision and along Olde Coach Way to Route 85.

This system will include a new high service area storage tank, pumping facilities to provide water to the new service area, a high service area distribution system, and control valves to allow water to flow from the new tank to the village area during a fire demand.

#### Water System Expansion

It is recommended that the Town undertake a water system expansion program beginning in the vicinity of the Newfields Farms subdivision. This program should include construction of a high service area distribution system and water tank, and development of the Goldsmith property well field. In addition to providing water service to the route 85/87 area, and providing a connection point for the Goldsmith property wells, this expansion project will also improve the fire storage capacity of the entire water system.

There are two potential water storage tank sites in this area. The best location for the new tank is on an unnamed hill just south from the Newfields Farms subdivision. This site is relatively close to the existing water system at Route 85, and could transmit fire demands to the downtown area without excessive friction losses. It is recommended that the Town investigate the feasibility of obtaining an easement for a standpipe site on the hilltop on this property. Hickey Hill off Route

87, near the Roher subdivision also provides an adequate tank site, but is more distant from the village area than the first site and therefore, will require a longer transmission main.

The new high service area tank should be a 330,000 gallon, 25 foot diameter by 90 foot tall standpipe, with an overflow elevation of 270 feet. The water distribution extension should include a new 12 inch main to the new tank site, and construction of a booster pumping station to feed the high service area.

It is also recommended that the Route 87 main be extended from Dixon Avenue to connect into the high service area water distribution system. When this connection is completed, it is recommended that the following areas be incorporated into the high service area to improve pressures in problem areas:

- Route 87 west from the fire station
- Otis Road
- Dixon Avenue
- Meadow Road
- Hemlock Court near Meadow Road

When this is completed it will be necessary to install control valves in the Route 87 and Hemlock Court mains to separate the high service area from the low service area.

Implementation of this water system expansion project is a major undertaking for a community the size of Newfields.

#### Recommendations

1. Incorporate the recommended actions reflected in the HTA report prepared for the Water District including the following specific actions:

- Construct a new water storage standpipe.

- Test and rehabilitate the existing wells in an effort to increase well yields if possible.

- Replace the existing water main crossing of the Boston and Maine railroad tracks with a new jack sleeve and pipe.

- Install an 8 inch main in Hilton Avenue from Pleasant Street to Main Street.

- Adopt improved water system construction standards. For all major repairs and system expansion 8 inch mains should be incorporated into the plan design.

Test the system to determine the water's corrosivity, and include LSI monitoring in said testing.

## **SEWER DISTRICT**

The Newfields Village Sewer District was established by a petition from 34 registered voters which was submitted to the Board of Selectmen. The establishment of the District was voted on at a Special Town Meeting held January 12, 1971.

The 2.4 million dollar wastewater treatment facility (WWTF) with a capacity of 110,000 gpd was completed and put into operation in 1983 with approximately 140 customers. In 1995 there are 175 customers using the facility at flow rate of 40,000 gpd or about 35% capacity.

The Newfields Village Sewer District operates as a separate unit within the Town of Newfields. A Board of three commissioners elected by district voters at the annual District Meeting operates the District.

Two Pump stations located on Old Lee Road and River Road and the Main Plant with three holding Ponds located at 7 Hervey Court make-up the major part of the system.

Operation of the Treatment Plant is contracted to HTA services of Bedford, N.H. The District has two part-time employees who are responsible for weekend plant operations and grounds maintenance.

When the Federal Discharge Permit is renewed in 1995 we expect major expenses will be required to meet the new Federal Standards of the Clean Water Act. In anticipation of this, in 1989 the Commissioners established an Accessibility Fee Program for all new customers to the District which sets aside money to be used for expansion and improvements to the facilities.

The costs associated with expansion of the sewer district are borne in full by any developer that proposes to expand the facilities as set forth in the Accessibility Fee Program.

The commissioners are in the process of developing a long-range plan for expansion of the WWTF which includes land acquisition and adding bullheads to the holding ponds to reduce the build up of sludge, therefore, extending their use by approximately ten years. At the present time we have significant capacity to continue operating without a major expansion of the WWTF.

Recommendations

1. Continue preparing for the upgrade that is anticipated to result from the new standards of the federal Clean Water Act.
2. Continue efforts by commissioners in preparing a ten year action plan for the expansion of the wastewater treatment facility.

# TRANSPORTATION SECTION



This report was funded in part by a grant from the Office of State Planning, New Hampshire Coastal Program, as authorized by the National Oceanic and Atmospheric Administration (NOAA), Grant Award Number NA47OZ0237.



## Transportation Section

### State Highway Network

The Town of Newfields continues to play an important role in the regional transportation system. The State of New Hampshire has a six category road classification system to indicate function and maintenance responsibility. The classification system is as follows:

- Class I ---- Interstates, Trunklines, Turnpike Tolls, and State Primary System
- Class II---- State Secondary System
- Class III--- Recreational Access Roads on State Land
- Class IV--- Local Roads Within Urban Compact Areas
- Class V---- All other Town Maintained Roads
- Class VI--- Town Roads Closed Subject to Gates and Bars or Not Maintained for Five Years or More

Roads in Newfields fall under four of the classifications offered above. Roads are in either of two state classes; these being Class I (NH Route 108) or Class II ( NH Routes 85 and 87). All other roads are Town Maintained and fall within the categories of Class V or Class VI. However of those in Class VI none are closed subject to gates and bars although they may not be actively maintained by the Town.

Within Newfields the major east west corridor is NH Route 87 which travels nearly the entire length of town from NH Route 125 in Epping to its junction with NH Route 85 in the Town center.

There are two Major north south corridors in the Town. The first is NH Route 108 which Runs from the Stratham Town line to northward to the Newmarket Town line. The second north south corridor is NH Route 85. This travelway leads northward from the Exeter Town line to its junction with NH Route 108 just north and east of the Town Center. This intersection, NH Routes 108 and 85 poses the single most significant traffic safety location in the Town. Improvement, in the form of signalization, are programmed in the state transportation Improvement Program (STIP) for this location in the year \_\_\_\_\_.

In addition to these routes, the major regional east-west corridor, NH Route 101, is in the process of being converted to a double-barrelled divided highway for its entire length from Manchester to Hampton. One of the results of this major undertaking was a complete redesign of the NH 101 - NH 85 interchange. With this project recently completed, there is much improved access to NH Route 101 just south of the Newfields town line. Although this highway is not actually in Town , its close proximity and improved design will probably result in additional commuting traffic along

NH Route 85 north, which could thereby exacerbate the troublesome NH Routes 108 and 85 intersection discussed above.

### Town Road Network

The most important change to the Town's transportation network in the ensuing years since the 1988 master plan preparation is the growth in town maintained roads. The creation of new houselots for single family residential development has resulted in the construction of approximately 15,000 linear feet of new road. The table below indicates the new subdivision roads created since 1988 and their linear measurement.

Table T-1  
Road Additions Since 1988

Road Name	Road Length
Deertree	2900 feet
Finn Avenue	1800 feet
Bassett Lane	2000 feet
Sanborn Drive	3000 feet
Finn and Bassett connector road	2100 feet
Halls Mill Road (upgrade from Class VI to Class V)	750 feet
Old Lee Road (upgrade from Class VI to Class V)	800 Feet
Cuba Road (upgrade from Class VI to Class V)	950 Feet
<b>Total Length of Road Additions Since 1988</b>	<b>14,300 feet</b>

### Land Use and Transportation

One of the most compelling components in land use planning of late is the study and understanding of the relationship between land use planning and transportation planning. In the recent past these two disciplines have become less and less connected despite the great impact each has upon the other. With the passage of the federal transportation authorization legislation

of 1991 the Intermodal Surface Transportation Efficiency Act (ISTEA), and the Clean Air Act Amendments (CAAA) of 1990 the land use/transportation planning link has become a favorite topic of study as a practical means for curbing the adverse affects of urban sprawl and over-reliance upon single-occupant automobiles that have become trademarks of American society. Recent interest in the impacts of these two planning disciplines upon one another has resulted in a number of policies that can be adopted by municipalites to attempt to improve air quality and reduce unnecessary trips by automobiles within a community. A number of these policies are included here for the potential use by the Town of Newfields in addressing these concerns.

1. Adopt town level regulations for subdivision and site plan review that encourage pedestrian and bicycle traffic. If amenities for this kind of transportation are provided in town individuals are given viable options to automobile trips.
2. Encourage development design that incorporates amenities for public transportation. The Cooperative Alliance for Seacoast Transportation (COAST), is the regional public transit provider. Although they offer no fixed route service to Newfields presently they are currently serving Exeter, Stratham, and Newmarket. It is possible that service expansion could include Newfields in the near future. If this is to be the case the Town could incorporate design standards in the development regulations that would serve to make public transit service a viable alternative to the automobile.
3. Incorporation of land use codes (especially zoning laws) which allow for higher densities and mixed uses helps to decrease the number of vehicle trips created. Such zoning standards are particularly appropriate in areas such as the Newfields Town center where population concentration already exists.
4. The Town should take a proactive approach in securing federal funding for transportation improvements. Federal funds are available to communities for projects ranging from intersection improvements to bicycle and pedestrian amenities.
5. The Town should review its municipal procedures to insure that adequate attention is given to the siting of driveways for residential and commercial activites to insure the future integrity of heavily travelled transportation corridors.

### **Regional Transportation Planning From the Local Perspective**

Millions of federal transportation dollars are programmed annually for the seacoast region of New Hampshire by an organization operating under the rather innocuous name of the Seacoast Metropolitan Planning Organization (SMPO). This public entity, whose membership is made up of representatives of 35 local communities, as well as federal and state transportation officials has

the explicit task of planning future transportation system improvements for the region. This includes establishing the priority of transportation projects funded by the federal government. As a member community of the SMPO study area, the Town of Newfields should make it a priority to become and stay involved in this transportation planning process. To forego this opportunity is to severely limit the community's ability to take advantage of federal funding programs for transportation related projects.

# HOUSING SECTION



This report was funded in part by a grant from the Office of State Planning, New Hampshire Coastal Program, as authorized by the National Oceanic and Atmospheric Administration (NOAA), Grant Award Number NA47OZ0237.



## HOUSING SECTION

### INTRODUCTION

Housing is one of the most important issues addressed in the master planning process. Over the past decade, New Hampshire communities, especially those in the southern tier of the State have become increasingly judged by the Courts on their performance in allowing for a wide range of housing needs -- housing which serves the requirements of a wide spectrum of age and income groups.

During the period of rapid building expansion of the mid to late 1980s, housing costs in southern New Hampshire escalated rapidly and exceeded the ability of wage earners to keep pace with the increases. Housing affordability became a major issue in Exeter and most other Southern NH communities, as steep housing costs put home ownership out of reach of even moderate income households. Although much of the housing affordability "gap" which arose was caused by a highly speculative housing market beyond the control of municipalities, some of the increased cost for housing may be attributable to municipal zoning and land use regulations. In some cases, these regulations were considered to be too restrictive and exclusionary and have added directly to the escalation of costs.

Since the last update of the Newfields Master Plan was completed in 1988, changes in the State Planning Enabling laws which specify master plan content (RSA 674:2) as well as the results of the Rockingham Superior Court cases (*Lewis Builders et.al vs. Atkinson, and Britton et.al. vs. Chester*) require Towns to assess housing needs of all income groups, including housing needs in context with the surrounding region. RSA 674:2 III requires that a master plan contain a housing section which

"... analyzes existing housing resources and addresses current and future housing needs of residents of all levels of income of the municipality and of the region in which it is located, as identified in the regional housing need assessment performed by the regional planning commission pursuant to RSA 36:47, II."

To adequately address these issues, this section of the Master Plan will: 1) assess the existing housing stock and housing costs of Newfields in comparison to surrounding communities; 2 ) consider the results of the latest regional housing needs assessment prepared by the Rockingham Planning Commission. The section will conclude with general recommendations regarding policies and actions that may be needed to address present and future housing needs.

## HOUSING DEMOGRAPHICS

A wide diversity in housing types is an indication that a community's housing policies are responsive to the needs of various income and age groups. The aforementioned court cases (*Atkinson and Chester*) both involved allegations that local zoning and land use regulations, taken as a whole, caused discrimination against low and moderate income groups by limiting opportunities for affordable housing. A comparative assessment of Newfields's housing stock and costs is important to determine the adequacy of the housing supply for meeting a wide range of need. The following paragraphs review recent demographic information pertaining to growth, type and costs of the housing stock in Newfields as compared with ten surrounding towns as well as the County and the State. In addition, comparisons of median income and income distribution are made to further illustrate community housing characteristics.

### Growth in Housing 1980-1990

According to the 1990 federal Census, there were a total of 324 housing units of all types in Newfields in 1990. Of these, 312 or 96% were year-round, occupied units. Between 1980 and 1990, 21 units were added to the Town's housing supply, representing an 8% increase (see Tables H-1 and H-2).

**Table 2**  
**Occupied Housing Units and Persons per Unit**  
**1980 & 1990 US Census**

TOWN/AREA	Housing Units (occupied, yr round units)		Avg. Annl. Growth Rate '80-'90	Average Persons per Household	
	1980	1990		1980	1990
Newfields	274	312	1.3%	3.0	2.8
Epping	1149	1846	4.9%	9.6	6.8
Exeter	4182	4975	1.8%	0.8	1.0
Newmarket	1743	2898	5.2%		2.5
South Hampton	223	257	1.4%	3.1	2.9
Stratham	805	1812	8.5%	3.1	2.7
Area Total	8102	11788	3.8%	2.1	1.9
Rock. County	65951	89118	3.1%	2.9	2.8
New Hampshire	323493	411186	2.4%	2.8	2.7

Source: 1980 and 1990 US Census

There was a continuing decline in the average number of persons per unit, which declined from 2.97 to 2.82 in the period. Similar declines in household size were seen in all of the surrounding communities as well. Newfields's housing supply grew at a much slower rate than most of the surrounding communities, in large part due to its much smaller size.

### Housing Types

As clearly evident in Table H-3, Newfields has a fairly homogeneous housing stock that is predominantly single family. Comparatively, Newfields has many less multifamily and manufactured housing units than neighboring communities. At 9.7% it has a higher percentage of multifamily housing than only South Hampton. This is an interesting comparison because the rest of the communities in the surrounding area are considerably larger than both Newfields and South Hampton. The very low percentage of manufactured housing (0.8%), places Newfields well below the surrounding communities but this low percentage is very close to that of South Hampton, again indicating that very small communities characteristically have much less variety in housing stock than do larger communities. In fact, in both Newfields and South Hampton since 1980, the number of multifamily and manufactured housing units declined as a percentage of the total housing stock whereas in the larger communities just the opposite has been the case.

### Housing Cost

The available Census data for housing cost suggests that rents and home prices in Newfields are closely comparable to those of the surrounding area. According to the 1990 Census, the median rent paid for housing in Newfields in 1990 was \$517 -- just slightly lower than the average for the surrounding area and the county as a whole (see Table H-4). The median value of homes reported by their owners in 1990 was \$142,800. This is a little more than 10% below that of the surrounding communities' average value of \$18,667, but only 5% below the County median value.

TABLE H - 3 HOUSING DISTRIBUTION BY TYPE  
Newfields and the Region

1980-1992

TOWN/AREA	1980						1992						1980 - 1992				
	Total	Single Family		Multi-Family		Manufactured*		Total	Single Family		Multi-Family		Manufactured*		Units added	Percent Growth: Total Avg. Annual	
		number	%	number	%	number	%		number	%	number	%	number	%			
NEWFIELDS	301	244	81.1%	54	17.9%	3	1.0%	483	432	89.4%	47	9.7%	4	0.8%	182	60%	4.02%
Epping	1181	828	69.9%	211	17.9%	144	12.2%	2151	1338	62.2%	407	18.9%	406	18.9%	970	82%	5.12%
Exeter	4406	2355	53.4%	1314	29.8%	737	16.7%	5414	2328	43.0%	1964	36.3%	1122	20.7%	1008	23%	1.73%
Newmarket	1832	764	41.7%	940	51.3%	128	7.0%	3340	1245	37.3%	1853	55.5%	242	7.2%	1508	82%	5.13%
South Hampton	223	204	91.5%	17	7.6%	2	0.9%	271	251	92.6%	18	6.6%	2	0.7%	48	22%	1.64%
Stratham	844	713	84.5%	109	12.9%	22	2.6%	1943	1230	63.3%	668	34.4%	45	2.3%	1099	130%	7.20%
REGION TOTAL /AVG.	7943	4393	55.3%	2536	31.9%	1014	12.8%	11659	5594	48.0%	4289	36.8%	1776	15.2%	3716	47%	3.25%
ROCKINGHAM CO.	68132	45559	66.9%	17423	25.6%	5150	7.6%	105036	63758	60.7%	32232	30.7%	9046	8.6%	36904	54%	3.67%
NEW HAMPSHIRE	347758	218351	62.8%	108575	31.2%	20832	6.0%	516349	307450	59.5%	165935	32.1%	42964	8.3%	168591	48%	3.35%

\* Manufactured Housing includes manufactured housing and "All Other" Housing in the 1990 US Census.

SOURCES: (1) "Current Estimates & Trends in New Hampshire's Housing Supply, Update: 1992."

N.H. Office of State Planning, November 1992.

(2) 1980 and 1990 U.S. Census Bureau

**Table H - 4**  
**Housing Costs**  
**Rental and Owner Occupied Housing Units**

<b>TOWN/AREA</b>	<b>Median Rent 1990</b>	<b>Percent of Rock. Co. Average</b>	<b>Median Value Owner Occup. Units - 1990</b>	<b>Percent of Rock. Co. Average</b>
Newfields	\$517	96%	\$142,800	95%
Epping	\$473	87%	\$123,300	82%
Exeter	\$539	100%	\$154,000	103%
Newmarket	\$510	94%	\$131,500	88%
South Hampton	\$771	143%	\$174,300	116%
Stratham	\$661	122%	\$177,700	119%
<b>Area Total/Avg.</b>	<b>\$620</b>	<b>115%</b>	<b>\$159,375</b>	<b>106%</b>
Rock. County	\$541	100%	\$149,800	100%
New Hampshire	\$479	89%	\$129,400	86%

Source: 1990 Census of Population and Housing, Summary Population and Housing Characteristics

**Table H-5**  
**Percent of Households By Income, 1990**

Towns	Region's Population	Percent of Population	Income Ranges							Total
			\$0 to \$14,999	\$15,000 to \$29,999	\$30,000 to \$49,999	\$50,000 to \$74,999	\$75,000 to \$99,999	\$100,000 and over		
Newfields	888	4%	26	52	107	81	18	16	3%	
Epping	5162	21%	304	414	763	407	78	42	7%	
Exeter	12475	52%	859	1040	1475	941	298	312	52%	
S. Hampton	740	3%	12	47	76	57	42	30	5%	
Stratham	4955	20%	109	245	507	463	290	197	33%	
<b>Total</b>	<b>24220</b>	<b>100%</b>	<b>1310</b>	<b>1798</b>	<b>2928</b>	<b>1949</b>	<b>726</b>	<b>597</b>	<b>100%</b>	

## Income

Like housing mix and cost, measures of income can be important indicators of the openness of a community for providing housing opportunities to individuals and families with low and moderate incomes. In communities without lower cost housing opportunities, individuals and families with lower incomes are forced to seek housing in other locations. As a result, communities which afford little opportunity for affordable housing tend to have higher median incomes than those with a greater supply of affordable housing.

Data from the 1990 Census indicates that Newfields had a lower median family income than the average for surrounding towns and for the County. Median family income in Newfields for 1989 (the reporting income year) was \$44,659, or 3% below the average median of \$45,961 for the surrounding towns and 5% below the median or \$46,942 for Rockingham County (see Table 6). Per capita income figures for Newfields are comparatively lower, with the Town ranked 26th in the County.

**Table H - 6**  
**Median Family and Per Capita Income**  
**1979 & 1989 - Rockingham County**

TOWN/CITY	- 1979 -		- 1989 -		Percent of Rock. Co. Avg. Median Family 1989	Per Capita Income Rank Rock. Co. 1989
	Median Family Income	Per Capita Income	Median Family Income	Per Capita Income		
Newfields	\$21,354	\$7,381	\$44,659	\$15,821	95%	26
Exeter	\$19,481	\$7,392	\$42,556	\$18,531	91%	11
Epping	\$15,407	\$6,980	\$40,122	\$14,208	85%	35
Newmarket	\$18,750	\$6,700	\$39,444	\$15,078	84%	33
South Hampton	\$21,062	\$8,523	\$50,331	\$24,837	107%	2
Stratham	\$23,664	\$8,272	\$57,350	\$23,104	122%	7
Area Total/Avg.	\$19,673	\$7,573	\$45,961	\$19,152	98%	--
Rock. County	\$21,181	\$7,445	\$46,942	\$17,694	100%	--
New Hampshire	\$19,724	\$6,966	\$41,628	\$15,959	89%	--

Source: 1990 US Census, STF 3A

## REGIONAL HOUSING NEEDS ASSESSMENT

In 1988 the N.H. Legislature amended RSA 36:47 to mandate that all regional planning commissions in New Hampshire prepare a regional housing needs assessment which "...shall include an assessment of the regional need for housing for persons and families of all levels of income" (RSA 36:47,II). The stated purpose of the law is to assist municipalities in complying with RSA 674:2 which requires communities to assess housing needs in their own master planning process. The regional housing needs assessment must be updated every 5-years.

In 1989, the Rockingham Planning Commission prepared a Regional Housing Needs Assessment as a component of its regional master plan. In September of 1993 the RPC released a draft update of the Needs Assessment which incorporated data from the 1990 Census regarding housing characteristics and income. For the purpose of assessing regional housing needs for use in the Newfields Master Plan, the 1993 update to the Regional Housing Needs Assessment has been used in place of the original report so that the most accurate and up-to-date data could be incorporated into this plan.

The RPC identifies as the purpose of their Needs Assessment to quantify the size and distribution of the need for affordable housing in the region, and to provide communities with the information needed for their own housing needs assessments. Although a fair share apportionment of affordable housing is included in the report, the report states that this result is intended to be used only as a general indicator of the distribution of housing need in the region, not as a prescription of units needed in any particular community.

The Regional Housing Needs Assessment develops a fair share apportionment method which attempts to fairly distribute the unmet need for affordable housing to all communities in the region. The method involves distributing the identified need according to five factors relating to fair share. A numerical assessment is determined for each and is averaged for the purpose of distributing the housing need.

The five factors used and their rationale is as follows:

<u>FACTOR</u>	<u>RATIONALE</u>
Employment in community	Jobs create demand for housing
Equalized assessed value	Related to town's ability to absorb low valued housing without undue impact on tax rate
Vacant Developable Land	Related to ability to develop new housing
Income	Related to existing balance or imbalance of income groups

## Housing Units

Larger communities can absorb larger numbers of new units

The following steps are involved in developing the regional housing needs assessment:

1. Quantify need for affordable housing: called "indigenous" housing need; this is defined as the number of renter households among less than 80% of the region's median income and spending more than 30% of gross income on rent.
2. Identify "Excess Need": excess need occurs when the number of units identified for a specific community as indigenous need (in step one), exceeds the community's proportionate share of that need based on existing housing units.
3. Distribute "Excess Need": based on a numerical composite of the five factors described above, the excess need is redistributed to the region's communities. This result, combined with indigenous need is the fair share distribution.
4. Adjust for Housing Credits: the final step is to subtract "credits" from the fair share allocation for those communities in which affordable housing units have been added since the Census year (1990). Credits include mobile home building permits, units rehabilitated for rent assisted housing and units rehabed under the CDBG program.

The results of the fair share apportionment shows Newfields being apportioned 47 units as fair share (see Table H-7). This would represent approximately 15% of the present housing stock. In comparison with other communities and when taking into account the small size of the community Newfields fair relatively well in this exercise. However this result does indicate that Newfields could expand its housing opportunity; a goal that is supported in light of the relative homogeneity of the housing stock as depicted in Table H-1.

**Table H - 7**

**1993 Fair Share Housing Needs Apportionment**

**Prepared by the Rockingham Planning Commission per RSA 36:47**

COMMUNITY	Indigenous Housing Need	Year	Housing	Excess Need	Fair Share Factor Average**	Excess Units Allo- Cated	Fair Share	Credits	Total Fair Share	Fair
		Round Occupied Dwelling Units	Need If Equal Distri- Bution							Share as % of 1990 Housing Units
Atkinson	62	1774	159	--	0.037	47	109	0	109	6.2%
Brentwood	28	755	68	--	0.032	40	68	1	67	8.9%
Danville	24	895	80	--	0.027	35	59	1	58	6.5%
E. Kingston	15	463	42	--	0.024	30	45	6	39	8.5%
Epping	114	1846	166	--	0.043	55	169	5	164	8.9%
Exeter	615	4975	447	168	--	0	447	0	447	9.0%
Fremont	36	865	78	--	0.031	40	76	4	72	8.3%
Greenland	85	1010	91	--	0.041	52	137	0	137	13.6%
Hampstead	107	2359	212	--	0.041	53	160	3	157	6.6%
Hampton	621	5046	453	168	--	0	453	0	453	9.0%
Hmpt. Falls	6	533	48	--	0.035	45	51	0	51	9.6%
Kensington	13	559	50	--	0.028	35	48	0	48	8.7%
Kingston	65	1911	172	--	0.042	54	119	1	118	6.2%
New Castle	25	345	31	--	0.031	40	65	0	65	18.8%
<i>Newfields</i>	<i>11</i>	<i>312</i>	<i>28</i>	--	<i>0.028</i>	<i>36</i>	<i>47</i>	<i>0</i>	<i>47</i>	<i>15.2%</i>
Newington	23	296	27	--	0.087	111	134	0	134	45.4%
Newton	81	1198	108	--	0.027	34	115	0	115	9.6%
No. Hampton	74	1387	125	--	0.041	52	126	0	126	9.1%
Plaistow	220	2601	234	--	0.052	66	286	0	286	11.0%
Portsmouth	1771	10329	928	843	--	0	928	52	876	8.5%
Rye	143	1905	171	--	0.041	53	196	0	196	10.3%
Salem	652	9185	825	--	0.157	201	853	0	853	9.3%
Sandown	60	1304	117	--	0.032	41	101	2	99	7.6%
Seabrook	355	2808	252	103	--	0	252	10	242	8.6%
So. Hampton	2	257	23	--	0.025	31	33	0	33	13.0%
Stratham	70	1812	163	--	0.044	56	126	18	108	6.0%
Windham	72	2830	254	--	0.057	73	145	0	145	5.1%
<b>Total (Avg)</b>	<b>5350</b>	<b>59560</b>	<b>5350</b>	<b>1282</b>	<b>1.000</b>	<b>1282</b>	<b>5350</b>	<b>103</b>	<b>5247</b>	<b>8.8%</b>

\*\* The "fair share factor average" includes relative measures for five factors: employment, equalized assessed valuation, vacant developable land, median income, and total housing units valuation

**NOTE:**

This Housing Need Apportionment is intended for use as part of an overall Regional Housing Needs Assessment as required by RSA 36:47. The Rockingham Planning Commission does not support the use of this table to identify specific housing unit needs units to individual communities due to the inherent imprecision of any such apportionment method. It should be used only as a general indicator of housing needs within the region and as a reference in the preparation of local housing needs analyses.

Every effort should continue to be made to ensure that the Town continues to provide a range of housing opportunities, and that housing construction and renovation should continue to be appropriately regulated to ensure a high quality of construction and preservation of community character. In order to facilitate housing diversity the following recommendations are offered:

1. Use site plan review regulations to minimize the impact of multifamily development;
2. Investigate opportunities to construct or rehabilitate housing for low income and elderly residents;
3. Require impact analysis for developments of over 10 units;
4. Promote use of open space development ordinances to preserve open space, provide a mix of housing types and maintain community character;
5. Encourage future development to be sited in close proximity to existing roads, utilities and other infrastructure in order to minimize the cost associated with the expansion of the Town's water and sewer systems, and discourage low density development in the remaining open space in the Town;
6. Consider amendments to the Zoning Ordinance that provide incentives to construct affordable housing units mixed within conventional developments;
7. Ensure, through the site review process, that residential development provides adequate sidewalks and other pedestrian and bicycle amenities;
8. Perform a complete buildout analysis of the existing residential zones to evaluate whether to provide for further development of specific housing needs; this can be best accomplished utilizing GIS capabilities as they are made available to the Towndevelop.

# FUTURE LAND USE SECTION



This report was funded in part by a grant from the Office of State Planning, New Hampshire Coastal Program, as authorized by the National Oceanic and Atmospheric Administration (NOAA), Grant Award Number NA470Z0237.



## Future Land Use Section

The Future Land Use Section proffers a few land use changes for the Town that were suggested through the citizens attitude survey completed in the spring of 1995. At the time of this writing the Planning Board has not refined this final section of the Master Plan update.

### Residential Land Use

The current framework for residential land use is proposed to be carried forward with few changes. A two-acre lot size minimum will remain in the areas of Town not served by sewer and water, one acre is the standard in areas served by municipal facilities and this should remain the case. Attendant to this, major extension of municipal services to serve new residential development should only be done if expense for such expansions are borne by the developer.

The Town may wish to consider allowing increased flexibility in housing development design in order to gain the greater good of preserved open space or affordable housing for the elderly. In addition the flexibility in design could allow for multifamily development that would lighten the Town's regional fair share burden.

For the most part the residential development potential remains in the western section of Town.

### Commercial and Industrial Land Use

Commercial and industrial use were surprisingly mentioned by a large number of citizens as desired growth elements in Town. The preference is for increased commercial activity in two areas of Town; in the present commercial zone along NH Route 108 and in the far western side of Town along NH Route 87 (near the Epping Town line.) In addition to interest in increased commercial activity there was great support for small cottage and in-home businesses indicating perhaps that a lessening of regulation on these uses is in order.

Industrial land uses, especially light manufacturing, fared well in responses by citizens of Newfields but the interest was in additional businesses and not additional industrially zoned property.

### Land Conservation

In addition to those responses indicated above there was a fairly vocal group of residents expressing the need for further protection of Newfields' natural resources. Suggestions included more stringent environmental regulation and outright purchase of open space by the Town.

# CONSTRUCTION

## MATERIALS

### SECTION



This report was funded in part by a grant from the Office of State Planning, New Hampshire Coastal Program, as authorized by the National Oceanic and Atmospheric Administration (NOAA), Grant Award Number NA47OZ0237.



## Construction Materials Section

One of the newest chapters required for a master plan is the Construction Materials Chapter. The enabling statute that addresses the purpose and description of a master plan was amended by the New Hampshire Legislature in 1989. RSA 674:2, VIII-a requires the following:

"A construction materials section which summarizes known sources of construction materials which are available for future construction materials needs, including, at a minimum, the location and estimated extent of excavations which have been granted permits under RSA 155-E, as well as reports filed pursuant to RSA 155-E:2, I(d) with respect to non-permitted excavations."

The purpose of this chapter is to identify which construction materials are relevant and to locate these deposits using the soil survey of Rockingham County prepared by the Soil Conservation Service (SCS). Other sources of information are also used as appropriate. The soil survey identifies deposits of roadfill, sand, gravel, and topsoil as construction materials. Each soil type listed on the soil survey has a name and is shown on the map using a number followed, in most cases, by a letter from A to E. The number indicates the composition of the soil and the letter represents the slope. The letter A is a 0-3% slope, B is a 3-8% slope, C is a 8-15% slope, D is a 15-25% slope, and E is greater than 25% slope.

The SCS rated the performance of each soil type based on its physical characteristics and test data conducted during the SCS survey. For each intended use of the soil, the SCS gave the soil a ranking. The ratings of "good", "moderate", "fair", and "poor" are used for roadfill and topsoil. For sand and gravel, the soils are rated as "probable" or "improbable" as to the possibility of sand or gravel being present. It should be noted that the soil maps are intended for general townwide land use planning. Due to the mapping techniques used, there may be different soil types within a mapped area of another soil type. The smallest soil polygons mapped are usually in the two to three acre range. Because of these limitations, the soil maps should not be used for site specific land use planning. More detailed on-site soil identification is recommended for parcel level work. The construction materials identified in this chapter are based on these SCS maps. The information is not designed or intended to be used for definitive identification of construction materials.

The soil types that are likely to contain any of the four construction materials and are found in Newfields are listed in Table CM-1. Each soil number and name is provided, as well as the number of acres of that type of soil found in Newfields. The source for the soil information is the SCS soil map as digitized by Complex Systems of the University of New Hampshire and provided to the Rockingham Planning Commission in digital format. Calculations of the number of acres for each soil type are based on this digital information. Each of the four types of construction materials are listed in Table CM-1. For roadfill, if a soil has a rating of good or fair it was indicated. For sand and gravel, only the probable rating is listed. In the case of topsoil, there were no soils which had a good rating so only soils with a fair or probable rating are listed. Except for this case, if a soil had a rating less than good or probable it was left blank to make the table easier to read. Only the soils that had a good or probable rating in any category were included in the table.

Table CM - 1

SOIL NUMBER	SOIL NAME	ACRES IN NEWFIELDS	ROADFILL	SAND	GRAVEL	TOPSOIL
26 A,B,C	Windsor	93.60	Good	Probable	Improbable	Probable
38 A,B	Elmridge	602.20	Probable	Improbable	Improbable	Fair
42 B,C	Canton	220.40	Good	Improbable	Improbable	Probable
43 B,C	Canton	582.70	Good	Improbable	Improbable	Probable
129 B	Woodbridge	0.02	Fair	Improbable	Improbable	Probable
305 '	Rippowam	61.10	Probable	Improbable	Improbable	Probable
313 A,B	Deerfield	132.40	Fair	Probable	Improbable	Probable
395 '	Chocorua	35.50	Probable	Probable	Improbable	Probable
495 '	Ossipee	65.10	Probable	Improbable	Improbable	Probable
510 A,B,C	Hoosic	60.30	Good	Probable	Probable	Probable
	TOWNWIDE	CATAGORY	ACRES			
		GPPP	60.3			
		GIIF	0			
		GPIP	93.6			
		FPIP	132.4			
		FIIG	0			
		PIIP	126.2			
		PIIF	602.2			

### Roadfill

Table CM-1 shows that four soils in Newfields are rated as good for use as roadfill. These four soils total up to 957 acres, but because all of the soils are part of soil complexes, the exact total is less than that. The largest single soil type that is good for roadfill is the 43 B,C, Canton, which has 582 acres in Newfields.

### Sand

Sand is a very valuable material used in many kinds of construction. There are four soil types in Newfields that the SCS have given a probable rating for the presence of sand. The total size of the potential sand producing soils is 321 acres. Since only one of the soils is part of a complex soil, this number is fairly accurate. The 313 A,B Deerfield is the largest single soil type in this category, making up almost half of the total.

### Gravel

Gravel is a most sought after construction material for many types of industries. Due to the geology of Newfields and much of the coastal region, gravel deposits are not very plentiful. In Newfields, there is only soil type where finding gravel is rated as probable. This area covers a total of 60.3 acres.

### Topsoil

Topsoil deposits are the second most prevalent construction material in Town.. None of the soils were rated good for topsoil and only one, 38 A,B, Elmridge, was rated as Fair. 602 acres of the Elmridge soil are found in Newfields.

### Existing Excavations

At present, there are two active excavations in Newfields. Both are permitted under RSA 155-E. One is operated by NH Department of transportation and is located north of the Newfields Town center and west of NH Route 108. The second is operated by \_\_\_\_\_ and is located in the western part of town.

### Identification of Stratified Drift Aquifers

The Newfields Water Resource Management and Protection Plan contains information on the stratified drift aquifers located in Newfields. In 1990, the U.S.G.S. completed the most through and accurate study of the region's groundwater resources to date. The report is entitled, Geohydrology and Water Quality of Stratified Drift Aquifers in the Exeter, Lamprey, and Oyster River Basin, Southeastern NH. Three stratified

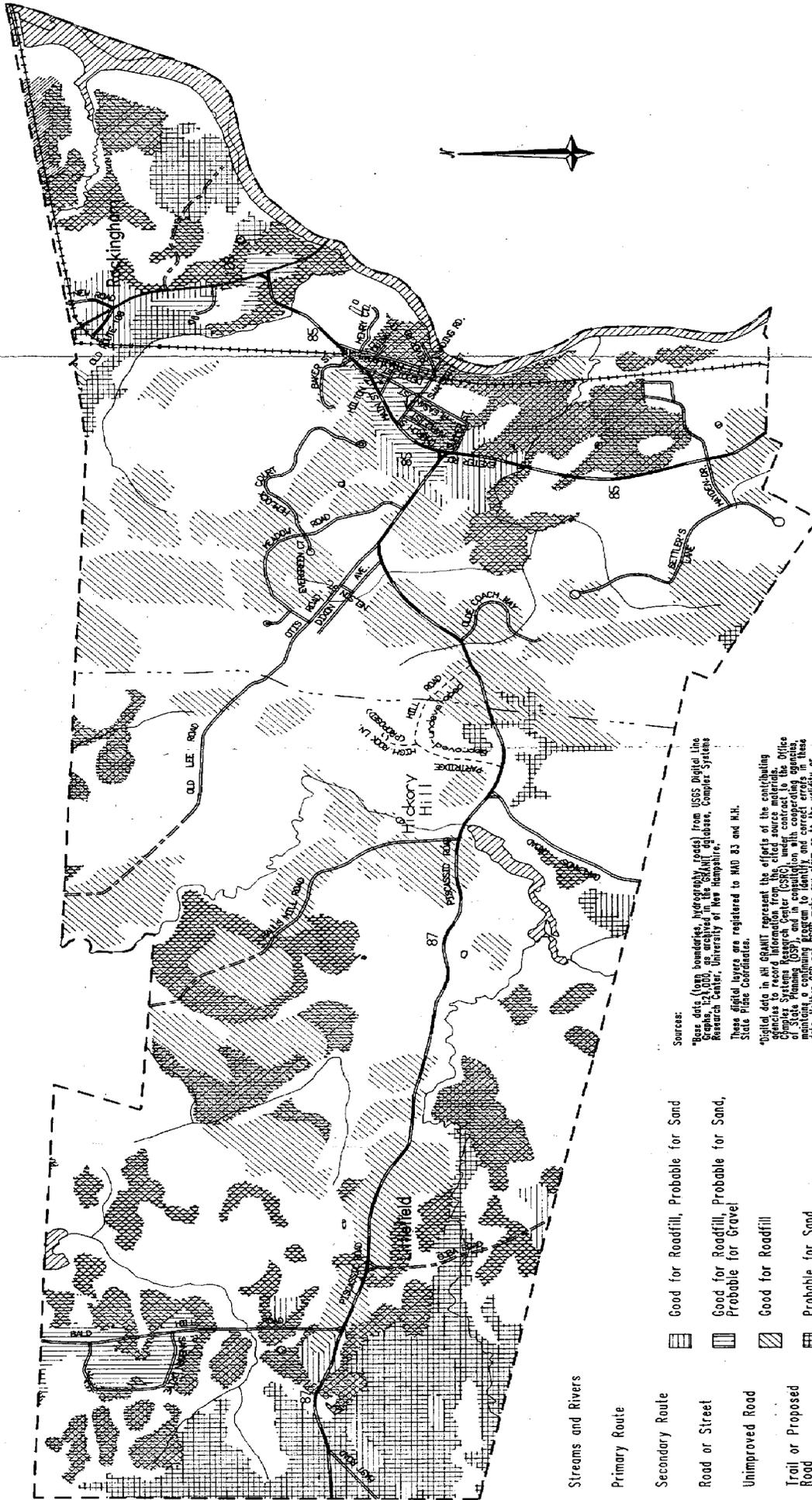
drift aquifers within Newfields are identified in the report and shown on Map E - Aquifers, of that chapter. Only one of these aquifers was found to be of high yield and this is the one located beneath the Newfields Town Center. Its boundaries lie almost entirely within Town and its size is approximately 482 acres.

As expected the aquifers match up fairly closely with the sand and gravel soils from the SCS soils map. When sand and gravel deposits are saturated with water, that forms an aquifer. There are, however, many instances where glaciers deposited sand and gravel on the top of hills or on hillsides; these are referred to as eskers or drumlins. These areas would not contain large amounts of groundwater and would not show up on the U.S.G.S. maps. Aquifers will always contain good sand and gravel, but sand and gravel deposits are not always good aquifers.

### Excavation Regulations

In 1990, the Newfields Planning Board adopted new Excavation Regulations that were based on a model developed by the Rockingham Planning Commission. These regulations incorporated all of the required provisions from RSA 155-E. Excavations are permitted in Newfields if the Planning Board issues an excavation permit after obtaining the required excavation and restoration plans and holding a public hearing. Given the scarcity of large amounts of construction materials in Newfields, the existing regulations are more than adequate protection to ensure safe excavations in the future.

# Newfields, N.H. Construction Materials Map



**Sources:**  
 "Base data" (soil boundaries, hydrography, roads) from USGS Digital Line  
 Drawing (DLG), in the form of a tape, Computer Systems  
 Research Center, University of New Hampshire.  
 These digital bytes are registered to MAD 83 and N.H.  
 State Plane Coordinates.  
 "Digital data in all GRANT represent the efforts of the contributing  
 agencies to record information from the cited source materials.  
 Computer Systems Research Center (CSRC), under contract to the Office  
 of State Planning (OSP), and in consultation and cooperation with the  
 data. Neither OSP nor CSRC make any claim as to the validity or  
 reliability or to any implied uses of these data."  
 Soil boundaries are from SCS Boscawen County soil survey, published  
 at 1:25,000 scale. Soil boundaries that coincide with water body  
 boundaries in the field will not always coincide on this map, due to  
 their differing data sources and scales.  
 Computer Systems Research Center, UNH, February 1980. Soils delineation  
 based on field work conducted by the USDA Soil Conservation Service,  
 completed in 1985. Preliminary Date - Subject to Change.

- Good for Roadfill, Probable for Sand
- Good for Roadfill, Probable for Sand,  
Probable for Gravel
- Good for Roadfill
- Probable for Sand
- Fair for Roadfill
- Fair for Roadfill, Fair for Topsoil

- Streams and Rivers
- Primary Route
- Secondary Route
- Road or Street
- Unimproved Road
- Trail or Proposed Road
- Railroad
- Abandoned Railroad
- NE Telephone Cable Easement
- Town Boundary

This map was funded in part by a grant from the Office of State Planning,  
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Scale 1:20000  
 1 in. = 1666 ft.



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