CHAPTER VIII

COMMUNITY FACILITIES

A. INTRODUCTION

The Town of Hudson has a responsibility to provide essential services to current and future residents and businesses. The provision of adequate community facilities is vital to maintaining the health, safety and welfare of the community. In order to meet the current and future demands for public services, the Town must plan for major municipal expenditures to prevent sudden and unanticipated capital needs. In addition, such planning for community facilities assists in the development of the Capital Improvements Program. This chapter examines the existing and estimated future level of service needs for each community facility based upon information derived from the 1996 Master Plan, various space needs studies, the FY2004 Capital Improvements Plan (CIP), the Town's annual reports and other studies. Although a variety of subjects are examined, a particular emphasis is placed on the space needs of each community facility.

The estimated future space needs of various community facilities are determined largely by the demand for the services they provide. Demand for services is objectively determined by the size of the community as measured by population, number of housing units and/or geographical size. Other factors also influence the demand for local government services, such as resident, State and Federal mandated programs and the local government's ability to pay for service expansions. While this last factor, financial capability, can be measured and maximized through a sound Capital Improvements Plan, other immeasurable factors, such as community character, should be considered. This chapter provides a discussion of: 1) Town Hall; 2) Library; 3) Police Department; 4) Fire Department; 5) Recreation; 6) Solid Waste; 7) Highway Department; 8) Public Schools; 9) Public Water Supply; and 10) Public Sewer. The location of existing public facilities is illustrated on Map VIII-1.

B. TOWN HALL FACILITIES

1. Existing Conditions

The Hudson Town Hall is located on a 1.4-acre site at 12 School Street. The building is 12,632 square feet (ft^2). The original building was constructed in 1965 in a modern adaptation of the Federal style.[1] Additions/ renovations were made in 1974, 1987 and 1998. Twenty five (25) off-street parking spaces are located on the south side of the Town Hall with 11 spaces in front of the building and 21 spaces to the rear. The basement of the building is subject to recurring floods. The Town Offices went through a major renovation project during the summer of 1987 when the original building interior was refitted with new office space and the east wing was added.

The number of employees in each department and their location in the Town Hall facility are shown in Table VIII-1. There are currently 29 full time employees and 14 part time employees for a full time equivalent of 36 employees. The 6,316 ft^2 first floor is utilized as office and storage space. The

[1] Town of Hudson Assessor's database. 6,316 ft^2 is building footprint and therefore interior floor area is estimated at twice this figure. The actual interior floor area is smaller. This figure does not include the Fire Station.

6,316-ft² basement floor is utilized for the Selectmen's meeting room, a small conference room, and additional meeting room and office space. Both floors are handicapped accessible via a combination of ramps, elevator and a staircase assistance device.

Table VIII-1. Town Hall Employees

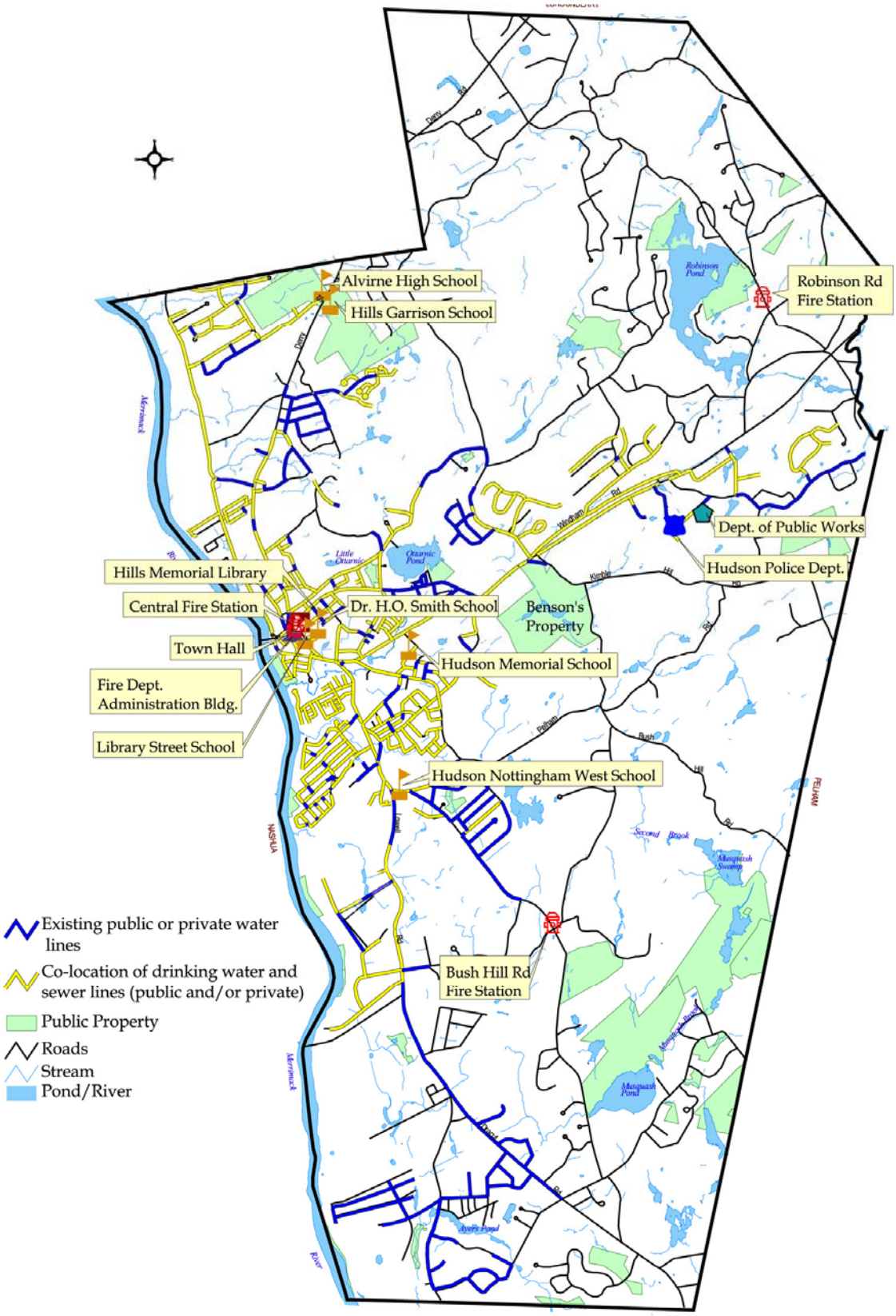
Department	Location	# of Employees		Full Time Equivalent Employees
		Full Time	Part Time	
Assessing	1st Floor	2	1	2.5
Board of Selectmen	1st Floor	3	5	5.5
Cable Coordinator	Basement	0	1	0.5
Planning, Zoning & Building	1st Floor	8	0	8.0
Engineering	Basement	3	0	3.0
Computer Services	Basement	2	0	2.0
Finance / I.T.	Basement	4	0	4.0
Sewer Utility	1st Floor	1	0	1.0
Supervisors of the Checklist	1st Floor	0	3	1.5
Town Clerk/Tax Collector	1st Floor	5	0	5.0
Treasurer	1st Floor	0	1	0.5
Trustees of Trust Funds	1st Floor	0	3	1.5
Water Utility	Basement	1	0	1.0
Total		**29**	**14**	**36**

Note: The employment figures listed above are for 2004.

Specific deficiencies with the Town Hall facility include:

- *Security*. There are three entrances to the Town Hall, two on the first floor and one to the basement floor, and no universal reception desk. The east wing is the only secure area and anyone can access the remainder of the building at will.
- *Parking*. On-site parking appears to be inadequate during large meetings or events. There is no surrounding on-street parking or shared parking lots that can be utilized during large meetings or events.
- *Space.* There is a floor area deficiency.
- *Storage*. There is insufficient storage throughout the building.
- *Flooding*. The basement is subject to repeated flooding.

Map VIII-1. Location of Existing Community Facilities



2. Existing and Future Needs

No formal space needs study has been conducted for the Town Hall. This section attempts to estimate the existing and projected space needs of all Town Hall employees but should not be used as a substitute for a full Town Hall Space Needs Analysis.

a. Existing Needs

A detailed analysis of floor area needs has been conducted for the Town Hall based on estimates of the usable floor area[2] requirements for various office workspaces, conference rooms and support areas. For the purpose of this analysis it is assumed that each Department Head will require 10 x 15 feet of enclosed office and support staff will each require a 9 x 12 feet semi-enclosed workstation. In addition, two large meeting rooms similar to the existing Selectmen's meeting room (approximately 1,600 ft² each) are included. The results of the floor area projections by department and support areas are shown in Table VIII-2.

Table VIII-2. Town Hall Space Needs

Facility	Full Time Equivalent Employees	Description	Estimated Floor Area (ft²)
Assessing	2.5	1 office, 2 workstations	556
Board of Selectmen	3.5	1 office	633
Cable Coordinator	0.5	1 office	228
Planning, Zoning & Building	8	3 office, 5 workstations	1,504
Engineering	3	1 office, 2 workstations	556
Computer Services	2	1 office, 1 workstation	392
Finance / I.T.	4	1 office, 3 workstations	720
Sewer Utility	1	1 office	228
Supervisors of the Checklist	.5	1 office, 1 workstation	228
Town Clerk/Tax Collector	5	2 office, 3 workstations	948
Treasurer	0.5	1 office	228
Trustees of Trust Funds	.5	1 office, 1 workstation	228
Water Utility	1	1 office	228
Meeting Rooms		2 public meeting rooms	3,200
Conference Room		1 20′ x 15′ room	423
Visitor Washrooms		2 washrooms	208
Staff Washrooms		2 washrooms	208
Kitchen		1 staff kitchen	228
Lunch Room		Staff seating for 20	320
Copier Room		1 copier room	228
Storage Room		1 40' x 40′ storage room	1,600
Reception Area		1 reception area plus 10 seats	558
Total	**32**		**13,650**

Source: Estimates compiled by Nashua Regional Planning Commission, October 2002.

[2] Davis Associates, Architects & Consultants, Inc. According to the Building Owners and Manager's Association (BOMA), the "usable floor area" in an office building is the floor area available for the tenant's use within his/her demised space. In general, it is measured from the glass line of the exterior wall to the centerline of demising partitions. The floor area occupied by structural elements and circulation space is included in the usable floor area. For example, a file cabinet will require floor area for the cabinet plus area to open the drawers plus circulation space in front of the drawers.

The detailed analysis of the existing Town Hall space needs presented in Table VIII-2 indicates that the existing 12,632 ft² building is approximately 1,048 ft² short of that required to serve the needs of Town Hall employees and is therefore deficient in space. In addition, building security and off-street parking supply need to be improved.

b. Future Needs

As the Town's population grows from 22,928 people in 2000 to a projected 31,656 by 2020, it is likely that additional employees may be needed in various departments. A specific analysis of the number of additional full time equivalent employees has not been conducted but could be projected in a more detailed space needs study. For the purposes of this section, it can be assumed that the number of full time equivalent employees will increase by 25% to 45 employees by 2020. Assuming all new employees are support staff, then an additional 9 x 12 foot semi-enclosed workstation will be required per person. These workstations will require an additional 972 ft² of space, for a total Town Hall space need of 14,622 ft². The existing Town Hall facility is incapable of accommodating this space without significant addition.

3. Solutions

The general analysis above indicates that Hudson's existing Town Hall facility is deficient in floor area, security, flood protection and parking provision and expansion must be considered. An Architectural firm should be procured to conduct a Town of Hudson Space Needs Study to pinpoint the exact amount of space required to accommodate existing and projected future employees. Options should be developed as to whether to: 1) expand on the existing site (may not be possible due to parking constraints and flooding issues); 2) purchase and rehabilitate an existing building, preferably near the existing facility; 3) construct a new facility, preferably near the existing facility; or 4) relocate to a different area of Town. If the Town Hall remains on or near the existing site, then parking shared with the library, or any library expansion, should be considered.

The Town Hall is often the center of community activity and therefore should reflect the community's character as well as provide for practical space needs. The existing Town Hall is of an architectural style and site design that reflects the surrounding residential area, despite being originally constructed in 1965. Any renovations to the existing Town Hall or construction of a new Town Hall should continue this tradition of reflecting Hudson's community character.

C. LIBRARY

1. Existing Conditions

The Hills Memorial Library is located on a 0.95-acre site at 18 Library Street. The building was constructed in 1909 and is historically significant in the Town of Hudson. The facility is supplemented by two separate annexes added in 1984 and 1990 which total 1,632 square feet. The facilities together provide 5,277 square feet of library space. The annexes are not connected to the main building. The library also has a bookmobile that houses approximately 4,000 pieces of material. The library accommodates 64,171 pieces of material with a circulation of 105,008. About 46% of the population, or 10,153 people, are registered borrowers.[3]

[3] Town of Hudson, *FY2003 Annual Report*.

2. Existing and Future Needs

Planning for an expanded library has been ongoing for nearly twenty-five years. In 2002, a follow up to the *1997 Needs Assessment and Building Program for the Hills Memorial Library* was completed. The study estimated the library floor area needed to serve the existing and future population of Hudson and accommodate an expanding collection.[4]

a. Existing Needs

The space needs study found that the current facility measures 3,688 net square feet, or 0.16 ft² per capita. According to the study, since the 1990s, most libraries that are being constructed exceed 1-1.25 net square feet[5] per capita for the current population. Based on this square footage and a population of approximately 23,000 people, the library facilities would need to be 23,000 – 28,750 net square feet. Therefore an additional 19,312 – 25,062 square feet are recommended to accommodate the current population.

b. Future Needs

The study also estimates that the Town will need approximately 29,449 gross square feet of library space to serve a design year population of 30,000, expected to occur in 2022. In addition to serving the current population, libraries are also facing requests to expand and diversify the collection as well as keep up with improvements in technology including Internet access and CD/DVD rentals. More space is needed to accommodate these needs.

3. Solutions

Based on the results of the study, the Library Trustees have proposed an addition and renovations at the current site of the library. Land acquisition has already begun to expand the total site from its current 0.95 acres to nearly 5 acres overall to accommodate an expanded facility and parking.[6] It has been obvious for many years that the current library is severely deficient in floor area and does not accommodate the needs of the existing nor future population of Hudson. Expansion of the existing library to 25,000 ft² has been programmed into the FY2007 Element of the Town of Hudson Capital Improvements Program for construction in 2008. The construction is planned to be funded through a bond issue that will be proposed in 2006 or 2007; however, this bond issue has repeatedly failed to pass at various Town Meetings and expansion of the library will be dependent upon the will of the voters.

D. POLICE DEPARTMENT

1. Existing Conditions

The Hudson Police Department is located on a 4.56-acre site at 1 Constitution Drive near the DPW facility. It contains the Emergency Operations Center, Animal Control Facility, and Kirby Building. The existing 14,200 ft² building was constructed in 1995 and was planned to meet the department's needs to 2005. The interior of the facility has been modified to accommodate additional staff since its construction. The number of employees in the Police Department is shown in Table VIII-3. As of 2003, there were 59 full time employees and 20 part time employees for a full time equivalent of 68.5 employees.

[4] Patience Kenney Jackson, *Needs Assessment and Building Program for the Hills Memorial Library*, February 2002.
[5] The actual gross square footage of the building is calculated using a standard multiplier of 1.25-1.30 to account for service areas, mechanical spaces, stairs, elevators, etc.
[6] Bruce C. Mayberry, Planning Consultant, *Public Library Impact Fees Methodology Update, Hudson, NH,* Oct. 2000.

Table VIII-3. Police Department Employees

Employee	# of Employees		Full Time Equivalent Employees
	Full Time	Part Time	
Chief	1	0	1.0
Secretaries	1	0	1.0
Record Clerk	3	0	3.0
Lieutenant	3	0	3.0
Detective Sergeant	1	0	1.0
Captain	2	0	2.0
Sergeant	5	0	5.0
Detectives	4	0	4.0
Legal	3	0	3.0
Patrol Officers	23	0	23.0
School Resource Officer	3	0	3.0
Animal Control Officer	1	1	1.5
Communication Dispatchers	7	4	9.0
School Crossing Guards	0	13	6.5
Information Services	1	1	1.5
Maintenance	1	1	1.5
Total	**59**	**20**	**68.5**

Source: Town of Hudson Police Chief, February 27, 2003.

2. Existing and Future Needs

The requirements for law enforcement service vary greatly from one locality to another based upon each jurisdiction's unique demographic traits and characteristics. A small community situated between two large cities, for example, may require a greater number of law enforcement personnel than a community of the same size that has no urban center nearby. Similarly, the needs of a community having a highly mobile or seasonal population may be very different from those of a city with a relatively stable population.

When attempting any comparison of law enforcement employee rates, the data user must consider differing service requirements and responsibilities. The US Department of Justice provides data that represent national, regional, and state averages; however, *they should be viewed as guides or indicators, not as recommended or preferred police staffing levels.* Adequate personnel for a specific locale can be determined only after a careful study, or manpower analysis report, of the various conditions affecting service requirements in that jurisdiction. According to a 2001 study by the U.S. Department of Justice,[7] the national average of full-time officers per 1,000 inhabitants in the United States was 2.4. The average for the northeast was 3.6 full-time officers per 1,000 inhabitants. In January 2003, the Hudson Police Department employed 43 full-time police officers, one full-time Animal Control Officer, one Police Prosecutor, 6 full-time Police Dispatchers and 5 full-time civilians. Of the 43 full-time officers, only 24 are assigned to the Patrol Division.

The Hudson Police Department conducts Manpower Analysis Reports each year to determine the staffing levels required to provide an adequate level of service. In doing so, it is necessary to determine the average amount of time (work) that will be available from each officer. This involves making allowances for the amount of time "lost" due to regular days off, vacation time, training time, sick leave and disability. The Hudson Police Department handled 38,565 calls for service from January to December 2001. By using the calculations provided by the International Association of

[7] US Department of Justice, *Crime in the United States, 2001.*

Chiefs of Police (IACP),[8] and after a careful review of the patrol staffing analysis, the Police Department determined that the department was understaffed by 5 Patrol Officers in 2003.

a. Existing Needs

The existing facility was designed to accommodate Police Department staff until 2005. Expansion of the facility will be necessary to accommodate future needs. A need for a dispatch center combined with the Fire Department has been identified.

b. Future Needs

A projection of Police Department staffing to 2020 is unavailable given that the US Department of Justice data cannot be used to predict recommended or preferred police staffing levels. It is anticipated that the existing facility, which was designed to accommodate the Police Department needs to 2005, will need to be expanded to accommodate new officers. A Police Department Space Needs Study was completed in 1994.[9] At the time, the study recommended that a 25,000 ft² facility be constructed to accommodate the needs of the department through approximately 2015. The Police Department has no immediate capital improvement needs scheduled in the FY2004 Element of the Town of Hudson Capital Improvements Program through 2008; however, a request has been made for a 13,000 to 15,000 ft² addition to the existing facility to be constructed in 2005/2006.

3. Solutions

The existing Police Department facility is likely to accommodate the needs of the department through 2005; however, a 13,000 to 15,000 ft² addition to the facility will likely be required to accommodate the department's expansion through 2015. In addition, a dispatch center combined with the Fire Department should be developed.

E. FIRE DEPARTMENT

1. Existing Conditions

The Hudson Fire Department utilizes four facilities: 1) the Administration Building on Ferry Street; 2) the Central Fire Station adjacent to Town Hall on School Street; 3) the Robinson Road Fire Station on Robinson Road; and 4) the Burns Hill Fire Station on Burns Hill Road. Emergency Medical Services (EMS) is a division of the Fire Department and operates out of the Central Station. The Fire Department, not including EMS, responded to 2,109 calls in 2001, a 5.7% increase from the 1,955 responses in 1998. The Fire Prevention Division conducted 6,380 activities, including plan reviews, inspections and education activities, in 2001. This is a 200% increase in activity from the 2,131 activities conducted in 1998.

The number of employees in the Fire Department are shown in Table VIII-4a and b. There are currently 44 full time employees (Table VIII-4a) plus 12 on-call Fire Fighters (Table VIII-4b). The EMS Division is comprised of EMTs from the full time Fire Department forces listed in Table VIII-4 and also the on-call force. All of the full time firefighters are dually trained as EMTs. Three ambulances are based in the Central Fire Station and also assist the Town of Litchfield. The ambulances responded to 1,827 calls in 2001, a 23% increase from the 1,490 responses in 1998. 169 responses were to assist the Town of Litchfield in 2001.

[8] www.theiacp.org/profassist/PatrolDeployment.pdf.
[9] Kaestle Boos and Associates, *Hudson Police Department Space Needs Analysis*, 1994.

Table VIII-4a. Full Time Fire Department Employees

Employee	Full Time Employees
Chief	1
Deputy Chief	2
Captain	5
Lieutenant	4
Fire Prevention Officer	1
Fire Inspector	1
Fire Fighter	24
Secretary	2
Dispatcher	4
Total	**44**

Source: Town of Hudson Fire Chief, January 5, 2005.

Table VIII-4b. On-Call Fire Department Employees

Employee	Full Time Employees
Captain	1
Lieutenant	1
Fire Fighter	10
Total	**12**

a. Administration Building

The Hudson Fire Department Administration Building is located on a 0.171-acre site at 39 Ferry Street. The existing 980 ft² building was constructed in 1957 and acquired by the Town in 1999. The use of this facility is limited to the Departments Administration and Fire Prevention Divisions. The purchase of this facility provided immediate additional floor area for existing needs when it was acquired. The facility was recently renovated with a new roof, HVAC system, flooring and windows. The existing parking is limited and provides for employee parking only. Customers for this facility must find off-site parking.

b. Leonard A. Smith Central Fire Station

The Central Fire Station, located on the 1.4 acre Town Hall site, was built in 1952. The existing 9,800 ft² facility was constructed before the Department had any full-time employees. The facility includes five bays, offices, sleeping quarters, and approximately 256 ft² for the Fire Department dispatch room. The facility also houses three Ambulances for the EMS Division.

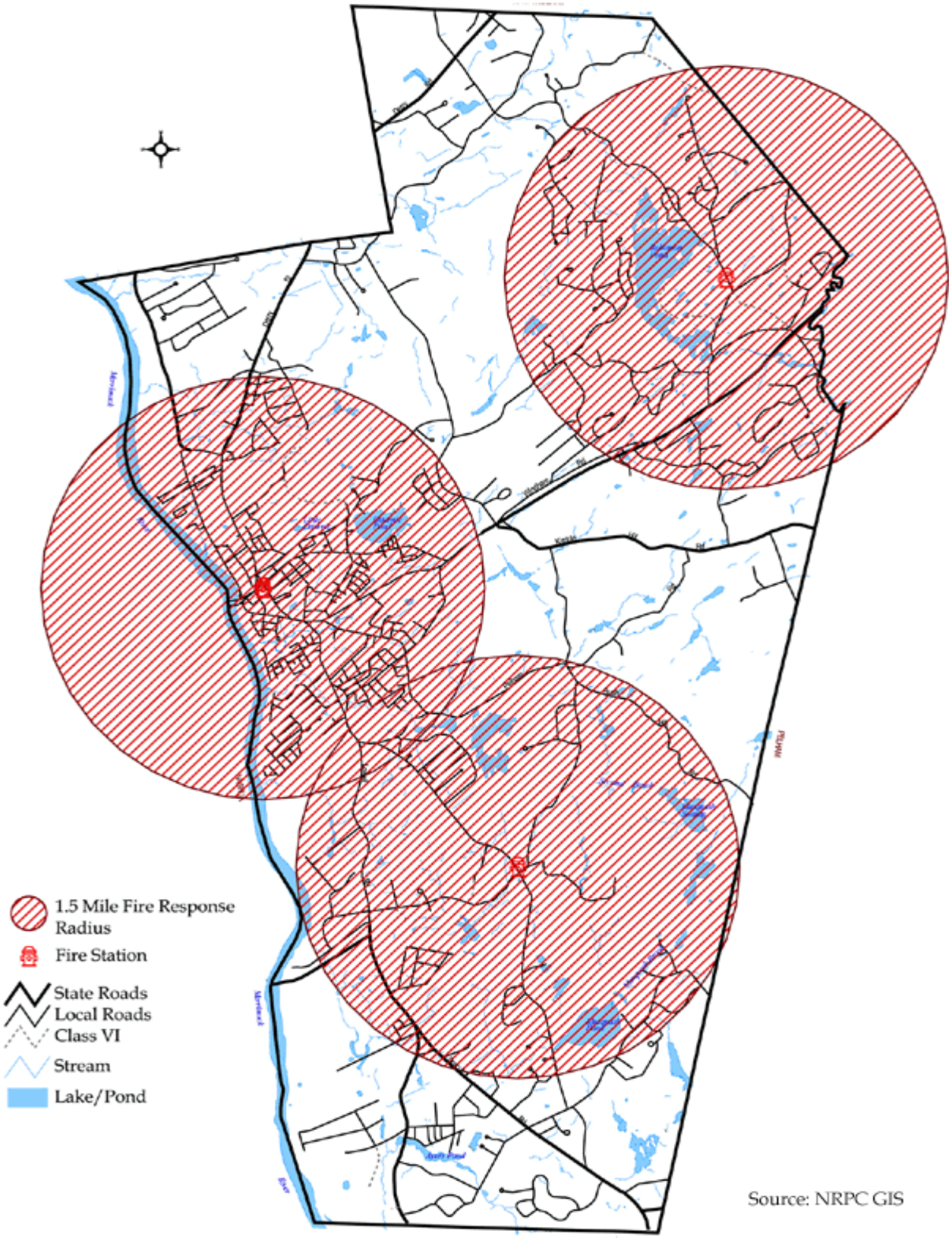
c. Robinson Road Fire Station

The Robinson Road Fire Station is located on a 45.7-acre site at 52 Robinson Road. The existing 5,890 ft² facility was constructed in 1982. The facility includes two bays, meeting room, office and storage space. The facility was recently renovated with a new pitch roof, HVAC system, electrical system, first floor interior, second floor storage and windows. The station is currently utilized by on-call employees but will need to be staffed full time in the next three to five years to accommodate call volume.

d. Burns Hill Fire Station

The Bums Hill Fire Station is located on a 0.923-acre site at 88 Burns Hill Road. The existing 2,880 ft² facility was constructed in 1980 when it was manned by on-call Fire Fighters. Since 2002, the Town has staffed this station with 3 full-time employees and the living space is inadequate. The one story facility includes three bays, office/bedroom and kitchen space. The facility was recently renovated with a new roof, windows, heating system, partial water purification/filtration system.

Map VIII-2. Fire Department Response Radius



2. Existing and Future Needs

Because there are so many variables involved (service radii, population, development density, traffic and response time), very few standards are available for long term planning of fire departments; however, the Insurance Services Office (ISO) provides some criteria for fire protection. The ISO standard recommends that municipalities have municipal water available within a 1½-mile radius from each fire station. This standard is set to ensure that all areas in a municipality are equally provided with water in case of fire emergencies. The 1½-mile radius around the three existing fire stations is shown on Map VIII-2. In addition, according to *Managing Fire Services*,[10] the NE average number of full time and on-call Fire Fighters is 23.4 per 10,000 population. This national average will be used as the standard for the purposes of this section.

a. Existing Needs

Relative to response, Map VIII-2 shows that there are sections of the north and south ends of town that are beyond the 1½-mile response radius around the three fire stations. The lack of an adequate water supply in the south end of Hudson is of concern to the Fire Department. An immediate, if temporary solution would be to add a 2,500 gallon Tanker to the Burns Hill station for emergency response. In addition, the lack of an adequate water supply in the north end of Hudson is also of concern to the Fire Department. Similarly, a temporary solution would be to add a 2,500-gallon Tanker to the Robinson Road Fire Station.

Relative to staffing, the national average of 23.4 Fire Fighters per 10,000 population can be used to estimate firefighting ability. Using the average, Hudson needed to provide 54 Fire Fighters to support its 2000 population. Hudson currently provides 38 full time and 12 on-call Fire Fighters, for a total of 50 Fire Fighters. The existing facilities currently accommodate these employees but are deficient in the following:

- The Central Fire Station is in need of major electrical and plumbing upgrades, additional employee and customer parking, larger apparatus bays to accommodate modem fire apparatus and additional space for storage, offices and living space. In addition, the current dispatch room is significantly undersized. The Central Fire Station is not accessible to people with disabilities.
- Newly hired Fire Fighters occupying the Burns Hill Fire Station require approximately 1,824 ft^2 of additional space for office, physical fitness, storage, sleeping quarters and associated domestic facilities.
- The Robinson Road Fire Station is currently manned by on-call Fire Fighters. The addition of a bulk propane facility, two bulk oil facilities and increased residential construction in the north end of Hudson requires full-time staffing of the Robinson Road Fire Station. Minimum full time staff should include one Officer and two Fire Fighters and should take place by 2008.
- The Town should develop a Combined Communications Center for the Fire and Police Departments. This concept has been used around the country to consolidate the two emergency call centers into one organization. The benefits include less duplication of efforts and better service to the public.

[10] Coleman, Ronny J. (Editor) and John A. Granito (Editor), *Managing Fire Services* (Municipal Management Series), 1988.

b. Future Needs

The national average of 23.4 Fire Fighters per 10,000 population can be used to estimate future fire fighting ability. Using the average, Hudson will need to provide 74 Fire Fighters to support its projected population in 2020. Hudson currently provides 38 full time and 12 on-call Fire Fighters, for a total of 50 Fire Fighters, and therefore will need to add 24 new Fire Fighters by 2020. Considerations for the growth of the Fire Department include:

- Planned future commercial and continued residential development in the north end of Hudson warrant the re-evaluation of the location of the Robinson Road Fire Station, the main corridors (NH 102 and 111) are not easily accessible from the current location. Any proposal for a new fire station should include floor area sufficient to accommodate additional Fire Fighters needed in 2020.
- There are significant response delays in the south end of Hudson. Future needs warrant the consideration of a new facility in this area and land should be pursued for this purpose. In addition, construction of a new South End Fire Station is also programmed for 2007. Construction is planned to be funded through a bond issue, subject to the will of the voters.

3. Solutions

The existing Fire Department facilities are not likely to accommodate the needs of the department through 2020 and are deficient in many ways to meet existing needs. There is a need to re-evaluate the location and floor area needs for the Fire Department Administration Building and the three Fire Stations. There do not appear to be any standards for the space needs of fire departments due to the widely varying nature of such departments and, therefore, a Town-specific space needs and location study should be conducted for all Fire Department facilities. It is likely that expansion and/or relocation of the Robinson Road and Burns Hill Fire Stations will be necessary, and there is a definite need for the expansion of the Central Fire Station on the existing site.

F. PARKS AND RECREATION

1. Existing Facilities

The Town of Hudson provides for various active and passive recreational opportunities at various locations. Facilities are provided at School Board and other publicly owned sites. The type and location of each recreational facility are listed in Table VIII-5. The Hudson Recreation Department, located in the 2,139 ft² Recreation Building on a 0.82-acre lot at 2 Oakwood Street, manages the Town's recreation programs and is staffed by one full time Recreation Director and a part time Recreation Assistant. The Town also owns the approximately 10,000 ft² Lions Hall on an 8.84-acre site at 12 Lion's Street. Both facilities are used for various recreation events.

Table VIII-5. Public Access Recreational Sites And Facilities

Facility	Alvirne High School	Dr. H. O. Smith School	Hills Garrison School	Library Street School	Memorial School	Nottingham West School	Robinson Pond Park	Claveau's Boat Landing	Greeley Field	Jette Field	Recreation Center	Merrifield Park	Other	Total School Facilities	Total Other Facilities
Baseball Field	3		1		1	1			1					6	1
Basketball Court	1			1	1	1			2		1			4	3
Beach							1							0	1
Boat Access							1	1						0	2
Football Field	1				1									2	0
Golf Course *													2.5*	0	2.5
Gymnasium	1	1	1	1	2	1								7	0
Hiking	1				1		1						1**	2	1
Ice Skating					1		1		1					1	2
Picnic Area							1				1	1		0	3
Playground		2	1				1		1		1	1		3	4
Running Track	1													1	0
Skate Park													1	0	1
Snowmobile Trail							1							0	1
Soccer Field	3		3		1	1								8	0
Softball Field	3	1			1					1				5	1
Tennis Court	4	2												6	0
Volleyball Court											1	1		0	2
X-Country Ski	1				1								2	2	2

Source: Brown & Rowe, *Landscape Architects and Planner, Hudson Master Park Plan,* March 18, 1988, updated by Town of Hudson Recreation Director and Planning Board in 2003.
* Golf course = Two 18-hole plus one 9-hole private facilities. **Musquash Hiking Trails

2. Existing and Future Needs

The NH Office of Energy and Planning (formerly the Office of State Planning), *Statewide Comprehensive Outdoor Recreation Plan* (SCORP), provides guidelines for the provision of various recreation facilities per 1,000 population. These guidelines are provided in Table VIII-6, along with the provision of existing facilities. The table also provides an estimate of facilities required to meet the needs of the existing population and the needs of the population in 2020. The tables do not include facilities planned for the Benson's property, the proposed Riverwalk trail along the Merrimack River or hiking trails at the Musquash Conservation Land.

Table VIII-6. Recommended Recreational Facility Needs, 2000 and 2020

Facility (quantity)	Guideline per 1,000 Population	Existing Facilities	Facilities Needed 2000	Facilities Needed 2020
Baseball Field	1.10	7	25	35
Basketball Court	0.80	7	18	25
Beach*	not applicable	1	1	1
Boat Access*	not applicable	2	1	1
Football Field	0.10	2	2	3
Golf Course *	0.04	2.5*	1	1
Gymnasium	0.25	7	6	8
Hiking	not available	3	not available	not available
Ice Skating	0.14	3	3	4
Picnic Area	not available	3	not available	not available
Playground	0.50	6	11	16
Running Track	0.04	1	1	1
Skate Park	not available	1	not available	not available
Snowmobile Trail	not available	1	not available	not available
Soccer Field	0.16	8	4	5
Softball Field	not available	6	not available	not available
Tennis Court	0.95	6	22	30
Volleyball Court	not available	2	not available	not available
X-Country Ski	0.10	4	2	3

Source: New Hampshire Office of State Planning and Hudson Recreation Director.
* Golf course = Two 18-hole plus one 9-hole private facilities.

a. Existing Needs

If the State guidelines are used, Hudson provides sufficient football field, gymnasium, ice skating rink, running track, skate park, soccer field and cross country skiing facilities to serve the 2000 population, but was deficient in the provision of all other facilities. The Town is particularly deficient in the provision of baseball fields, basketball courts, playgrounds and tennis courts.

In addition, the rated capacity of the existing Recreation Center is 200 people, which is too small to accommodate the 300 to 400 children that often attend indoor-outdoor events at the facility. Consideration should be made to relocating the recreation center to the Lion's Hall, which has a rated capacity of 400 people. Moreover, additional courts or playing field space could be accommodated on the larger Lion's Hall property. The Recreation Department is also considering a new playing field on the Nottingham West School property, and public access to a proposed playing field is being negotiated near NH 3A and Wason Road.

b. Future Needs

In 2020, additional recreation facilities will be required for all categories except cross-country ski, running track and soccer field facilities to meet the State guidelines. The Town will be particularly deficient in the provision of baseball field, basketball court, playground and tennis court facilities, however, the State guidelines are limited in that they do not account for local interests, conditions or participation levels. The SCORP provides only general projections of recreation facility needs. According to the National Recreation and Park Association (NRPA), a "*…standard for parks and recreation cannot be universal, nor can one [community] be compared with another even though they are similar in many respects.*"[11] The NRPA has moved away from the

[11] National Recreation and Parks Association, *Parks, Recreation, Open Space and Greenway Guidelines*, 1995, pg. 59.

concept of broad facility standards as used in the 1995 SCORP and referenced in Table VIII-6, above. Rather, the NRPA provides a step by step process that can be used to more accurately determine facility standards for each of Hudson's recreation facilities.[12] The NRPA recommends facility standards defined by customer's needs rather than an arbitrary standard such as 0.95 tennis courts per 1,000 population and the process requires considerable analysis of the use of each specific facility. This type of analysis is beyond the scope of this section due to a lack of data on the use of each facility.

c. Benson's Property

The 168-acre former Benson's Wild Animal Farm property presents a significant opportunity for the Town of Hudson to provide open space and recreational amenities to its citizens. The NH Department of Transportation acquired the property for the purpose of creating a wetland mitigation site for wetland impacts at various highway construction projects. It is anticipated that up to 40 acres of wetlands will be constructed or restored on the property. A *Benson's Property Master Plan*[13] was completed in 2002 and included for references as Appendix A.. A conceptual site plan and a phased capital improvements plan for the property was developed as part of the *Benson's Property Master Plan*.

The site plan includes the wetlands restoration area, a passive recreation area, an active recreation area and a historic buildings district. The capital improvements plan includes twelve phases for implementing various improvements within the latter three of these areas. Proposed improvements are generally geared towards creating a pastoral park setting, with restoration of contributing historic structures, redevelopment of open field area into multi-purpose play areas, building a system of trails that accommodates a variety of non-motorized activities, provision of vehicle access and parking for approximately 250 cars, development of new structures for picnicking/restrooms/concessions, an amphitheater with seating for approximately 500 people, and a warming house for winter ice skating and cross-country skiing. Full development of the improvements can contribute towards alleviating the existing and future deficiency in recreation facilities within Hudson.

3. Solutions

Estimates based on State guidelines suggest that Hudson is deficient in field space, playground and court facilities and will become further deficient in these facilities by 2020. Some facilities may be provided in the near future through development of the Benson's property and Recreation Department efforts. In order to determine more accurately the facility needs specific to the Town of Hudson, the Town should perform an in-depth study of existing and future recreation needs based on the NRPA process. The study should estimate the existing and future recreation needs for each type of facility and determine the land or floor area required to accommodate the needs. Once the study is completed, impact fees may then be an appropriate source of revenue for additional recreation facilities, pending further analysis.

[12] NRPA, pp. 69-89.
[13] Vanasse Hangen Brustlin, Inc., *Benson's Property Master Plan*, March 6, 2002.

G. SOLID WASTE

1. Solid Waste Disposal

The Town of Hudson closed and capped its landfill on West Road in 1991 due to leachate problems. Hudson residents are provided with curbside pickup of residential waste and recyclable materials through a private contractor. A Solid Waste Study Committee is responsible for recommending options for each contract cycle. In 2001, the Town residents generated 11,005 tons/year of solid waste. Of that total, 1,124 tons/year or 10.2% were recycled.

2. Household Hazardous Waste

The Nashua Regional Household Hazardous Waste/Small Quantity Generator Collection (HHW-SQG) Program is open to the residents of Hudson and surrounding communities. HHW comes from everyday products used in home, yard or garden and are corrosive, flammable, toxic or reactive. The program provides a location for residents to safely dispose of HHW during various days of the year at a central location at the Nashua Public Works Garage. Household participation rates have risen from 1,154 in 1996 to a peak of 2,520 in 1999, 2,208 households participated in the program in 2001.

H. HIGHWAY DEPARTMENT

1. Existing Facilities

The Hudson Highway Department consists of the Road Agent and the Street, Drain/Sewer and Maintenance Divisions. The Department is located on an 18.6-acre site at 2 Constitution Drive and 8.26 acres of the site are subject to a conservation easement. The 19,600 ft² facility was constructed in 2000 to replace various obsolete facilities. The facility includes a 15,400 ft² covered garage with maintenance functions, 2,000 ft² of office space and 2,000 ft² of mezzanine for storage. The site also includes a 3,600 ft² salt shed also constructed in 2000. The salt shed meets all existing environmental regulations for salt containment. The Highway Department currently has 1 part-time and 25 full time employees. A list of employees is provided in Table VIII-7.

Table VIII-7. Highway Department Employees

Department	# of Employees	
	Full Time	Part Time
Road Agent	1	0
Highway Dept. Supervisor	1	0
Foreman	2	0
Equipment Operators	5	0
Mechanic	1	0
Traffic Technician	1	0
Truck/Driver Laborers	13	0
Operation Assistant	1	0
Receptionist	0	1
Total	**25**	**1**

Source: Town of Hudson Road Agent, October 2002.

2. Future needs

The existing facility was constructed in 2000 to meet the needs of the Highway Department for the foreseeable future. Therefore, no further expansion is likely prior to 2020.

I. PUBLIC SCHOOLS

1. Existing Conditions

Public Schools in Hudson are governed by the five-member locally elected Hudson School Board supported by a Superintendent. The School Board offices are in the former Webster Street School at 20 Library Street. The Hudson School Board provides four Elementary schools, one Middle and one High school. They include: 1) Dr. H. O. Smith School; 2) Library Street School; 3) Nottingham West School; 4) Hills Garrison School; 5) Memorial Middle School; and 6) Alvirne High School. In addition, two private schools are located in Town but are not subject to the analysis of this section, the Presentation of Mary Academy and the Bethel Christian School. Current and projected enrollment figures for each grade can be seen in Table VIII-8. Projected enrollment figures are determined based on the Cohort Survival Technique and project a peak in the number of students at 4,125 in 2004/2005. From then, the enrollment begins to drop to approximately 3,887 by 2012/2013. The projected drop in the number of students may be attributed to various demographic factors, including the aging of the population and a reduction in household size.

Table VIII-8. Existing and Projected School Enrollment Figures

Existing Enrollment																
Year	**1**	**2**	**3**	**4**	**5**	**1-5**	**6**	**7**	**8**	**6-8**	**9**	**10**	**11**	**12**	**9-12**	**1-12**
2002-03	305	342	283	336	337	1,603	370	363	407	1,140	396	356	303	279	1,334	4,077
Projected Enrollment																
Year	**1**	**2**	**3**	**4**	**5**	**1-5**	**6**	**7**	**8**	**6-8**	**9**	**10**	**11**	**12**	**9-12**	**1-12**
2003-04	296	304	352	287	338	1,577	349	373	374	1,096	451	357	353	284	1,445	4,118
2004-05	276	295	313	359	289	1,532	350	352	384	1,086	415	407	354	331	1,507	4,125
2005-06	297	275	303	319	361	1,555	299	353	363	1,015	426	374	403	332	1,535	4,105
2006-07	307	296	283	309	321	1,516	373	301	364	1,038	403	384	371	378	1,536	4,090
2007-08	285	306	305	288	311	1,495	332	376	310	1,018	404	364	380	348	1,496	4,009
2008-09	289	284	315	311	290	1,489	322	335	388	1,045	344	364	361	357	1,426	3,960
2009-10	293	288	292	321	313	1,507	300	324	345	969	430	310	361	339	1,440	3,916
2010-11	298	292	296	297	323	1,506	324	302	334	960	383	388	307	339	1,417	3,883
2011-12	302	297	300	302	299	1,500	334	326	311	971	370	345	384	288	1,387	3,858
2012-13	307	301	306	306	304	1,524	309	337	336	982	345	334	342	360	1,381	3,887

Source: Hudson School District, October 2002.

2. Existing and Future Needs

The NH Department of Education (DoE) provides funding to communities for new schools through the Office of School Building Aid. In order to receive funding, schools must meet certain classroom floor area standards as defined by Section Ed 305.03 of the DoE Administrative Rules.[14] At the kindergarten level, classrooms must provide at least 1,000 ft² with a minimum of 50 ft² per pupil. In grades 1-8, a 900 ft² minimum classroom size is required, at a ratio not less than 30 ft² per pupil. At the grade 9-12 level, a minimum classroom size of 800 ft² is required, or 30 ft² per pupil, whichever is greater. These standards for classrooms, however, do not include the many other components of overall spatial needs within a school system. Other requirements include circulation areas, core facilities, media and resource rooms, administration space and other variables that depend on the local district's chosen instructional program and the size and quality of the core facilities the district is willing to support. Therefore, the best indicator of the local facility standard is a function of the overall floor area of existing school facilities divided by the rated capacity of the schools. The facility inventory and capacity of the six public schools are shown in Table VIII-9. The entire system provides a floor area per capacity of 118 ft² per student.[15]

Table VIII-9. Facility Inventory and Capacity

School	Location	Year Constructed	Acres	Grades Served	Floor Area (ft²)	Capacity (estimate)	Enrollment	Enrollment as % of capacity
Dr. H.O. Smith	33 School Street	1939	8.05	1-5	44,617	350	217	62%
Library Street	22 Library Street	1958	1.75	1-5	30,136	250	193	77%
Nottingham West	10 Pelham Road	1988	16.24	1-5	77,000	800	679	85%
Hills Garrison	190 Derry Road	2001	18.00	1-5	64,800	550	514	93%
Memorial	1 Memorial Drive	1966/2002	27.86	6-8	157,266	1,200	1,140	95%
Alvirne High/ Vocational Center	200 Derry Road	1948/1992	195.00	9-12	140,448	1,500	1,334	111%
Total			**266.90**		**514,267**	**4,350**	**4,077**	**94%**

Source: Hudson School District, October 2002.
Note: Floor Area of Alvirne High does not include Vocational Center.

Using the 2002-03 and the projected 2012-13 enrollment figures from Table VIII-8, and the floor area standard of 118 ft² per student, a projection of the classroom floor area required for each school can be made, and compared to the capacity for elementary, middle and high schools. This is summarized in Table VIII-10.

[14] NH Department of Education, Administrative Rules Ed 305.03 at: http://www.ed.state.nh.us/EdLaw/admini.htm
[15] Bruce C. Mayberry, Planning Consultant, *Impact Fee Needs Analysis and System Design for Public School, Library and Recreation Facilities, Final Report*, April 1, 1996 and Bruce C. Mayberry, Planning Consultant, *Update to the Hudson Impact Fee System for Public Schools and Public Library,* October 23, 2000. Enrollment and floor areas updated by NRPC with data from Hudson School Board, October 2002.

Table VIII-10. Existing and Projected Classroom Floor Area Requirements

Grade Level	Existing Floor Area (ft^2)	Enrollment 2002-03	Minimum Required Floor Area 2002-03 (ft^2)	Projected Enrollment 2012-13	Minimum Required Floor Area 2012-13 (ft^2)
Elementary	216,553	1,603	189,154	1,524	179,832
Middle	157,266	1,140	134,520	982	115,876
High	140,448	1,334	157,412	1,381	162,958
Total	**514,267**	**4,077**	**481,086**	**3,887**	**458,666**

Source: Hudson School Board, October 2002; compiled by NRPC.

The number of students in all grade groups is expected to decline from 2002/2003 to 2012/2013. With the construction of the new Hills Garrison School, the existing school buildings as a whole now provide sufficient capacity to serve existing and future needs. Therefore, the existing school buildings will provide for the needs of Hudson's students for the foreseeable future; however, the existing Alvirne High School is 10% over capacity and is projected to be 28% over capacity by 2006/2007. The over capacity is projected to continue through 2012/2013. Given that high school students should be contained within one facility separate from other grades, the School District may wish to consider a small scale expansion or reconfiguration of the existing Alvirne High School to accommodate approximately 22,500 ft^2 of additional floor area.

3. Solutions

Hudson's school facilities appear to provide a total floor area sufficient to serve the overall needs of students for the foreseeable future; however, a small-scale expansion or reconfiguration of the existing Alvirne High School may be necessary to alleviate capacity issues at the high school level. Impact fees are currently collected for elementary and middle school levels only. Given the projected decline in elementary and middle school enrollment, the Town should consider revisiting the impact fee schedule and reassign impact fees to the high school level.

J. PUBLIC WATER SUPPLY[16]

Hudson's public water supply system has two primary functions. The first is to supply water for domestic, commercial and industrial use and the second is to provide adequate fire protection. Consumers New Hampshire Water Company (CNHWC) previously owned the existing public water supply system. During the 1996 Annual Town Meeting, the Town of Hudson approved a measure to purchase the system and operate it as a municipal utility. The Town of Hudson now owns three water supply wells located in the Town of Litchfield and the water distribution system within the Town borders, including four public booster pumping facilities, two water storage facilities and over 500,000 linear feet of water distribution pipe. The following are discussed herein: 1) existing public water supply system; 2) existing and future water demand and capacity; and 3) recommended improvement plan.

[16] Source for most of the information in this section is from: 1) Weston & Sampson Engineers, Inc., *Town of Hudson, NH, Water Distribution System Study, Final Report,* January 2002; with more recent information in 2) Weston & Sampson Engineers, Inc., *Town of Hudson, NH, Dame and Ducharme Well Safe Yield Study, Final Report*, March 14, 2002.

1. Existing Public Water Supply System

a. Water Supply Wells

The Town is supplied with water pumped from three wells located in Litchfield. The three wells (Dame, Ducharme and Weinstein) have been identified as having a combined apparent safe yield of 1.89 million gallons per day (mgd) based on annualized usage. These wells provide water to the Towns of Hudson, Litchfield and Pelham. Water enters the Town through a newly metered 16-inch water main off Adam Drive. Table VIII-11 summarizes the apparent safe yield of the three wells.

Table VIII-11. Dame, Ducharme and Weinstein Wells

Well	Date Installed	Apparent Safe Annualized Yield (million gallons per day)
Dame	1985	Combined yield
Ducharme	1983	0.79[17]
Weinstein	1982	1.1
Total		**1.89**

Source: Weston and Sampson Engineers, Inc., 2002 and February 2003.

By contract, up to 15% of the safe yield of the three wells can be utilized by Pennichuck Water Works for the town of Litchfield and Pelham and small portion of Londonderry. Therefore 1.61 mgd is available from the wells for Hudson users. Pennichuck Water Works supplements Hudson's water supply with water from the Pennichuck Water Works (PWW) Treatment Plant during periods of high demand. This is metered through the Taylor's Falls pumping station meter station which is owned and operated by PWW.

The Dame and Ducharme wells draw water from what is known as the Darrah Pond Aquifer in Litchfield. In 2000, the NH Department of Environmental Services (NH DES) began to receive notice of falling water levels in Darrah Pond. As a result, interim pumping reductions were agreed to in the summer of 2000; however, this did not stem the reduced water levels and a study was conducted in 2001 on behalf of the Town of Hudson in order to determine an appropriate safe yield for these wells. The study concluded, that the maximum safe yield should be maintained at average annual withdrawals of 90% of available aquifer recharge. Available recharge was estimated at 0.88 mgd and therefore the wells safe yield was set at 0.79 mgd. It is possible to operate these wells at a maximum of 1.1 to 1.2 mgd for extended periods; however, exceeding the long-term annual safe yield could contribute to an overall lowering of ground water levels in the area of Darrah Pond during periods of low precipitation.

The Weinstein well aquifer appears to have a maximum yield capacity of 1.6 mgd on an annualized basis.[18] The study, however, recommends a safe yield of 1.1 mgd annualized with greater amounts available during periods of high water demand. The final recommendation in the study is that no more than 400 million gallons per year be pumped from the Weinstein well.

[17] Note: originally estimated at 1.2 to 1.3 mgd by Weston Sampson Engineers, Inc. in January 2002 study. Further study of the safe yield reduced this figure to 0.79 mgd average annual yield.
[18] Weston and Sampson Engineers, Inc., *Weinstein Sustainable Yield Study*, February 2003.

b. Storage Facilities

Two storage facilities provide 2.95 million gallons of water storage capacity in the main service system. The 2.0-mg Marsh Road tank is located off Marsh Road in the northwestern part of Town and the 0.95-mg Gordon Street Standpipe is located off Gordon Street near the geographic center of Town.

Two new storage facilities are included in the Capital Improvement Plan (CIP). The first will be located in south Hudson with a capacity 0.8 million gallons and the second will serve the Windham/Marsh Road area and be located on Barrett's Hill. This storage facility will have a capacity of 1.2 million gallons.

c. Booster Pumping Facilities

Three booster pump stations provide water to three separate areas with high topographic land elevation. There are also several privately owned and operated high elevation booster pump stations not included in this discussion. Table VIII-12 summarizes the hydraulic grade line and capacity of the three pump stations.

Table VIII-12. Marsh Road, Windham Road and Compass Point Pump Stations

Station	Date Installed	Average HGL (feet)	Capacity* (gallons per minute)
Marsh Road	1986	510	400
Windham Road	N/A	520	750
Compass Point	1996	440	750

Source: Weston and Sampson Engineers, Inc., 2002.
* Domestic Flow Capacity without Fire Pumps; HGL = Hydraulic Grade Line.

The Marsh Road station draws water from and is located adjacent to the 2.0 million gallon Marsh Road water storage tank. It was upgraded in 2001 to alleviate operation deficiencies and has adequate capacity. It is a below ground station and therefore has "confined space" limitations. The Windham Road and Compass Point stations have deficiencies which trigger fire pump start up capacity that can result in pressure surges in the system. The Compass Point system and the Windham Road system are slated for upgrades in the CIP.

d. Distribution System

The over 500,000 feet of water distribution system (pipeline) is relatively new and of generally good quality. The system is illustrated on Map VIII-1 on page VIII-3. Portions of the original water distribution system in the town center were constructed prior to 1930 and may be of inferior unlined cast iron pipe and in need of replacement. There is a need to locate and document all internal pipe conditions in the town center area and prioritize replacement.

New transmission mains are needed to deliver water to various sections of Hudson, especially south Hudson, and also to provide appropriate redundancy in the delivery system. Table VIII-13 summarizes the proposed new transmission mains.

Table VIII-13. Proposed New Transmission Mains

Street	From	To	Proposed Size (inches)	Length (feet)
Barrett's Hill Road	Rangers Drive	Greeley Street	12-inch	6,000
River Road	Lowell Road	End of pipe in River Road	12-inch	2,900
Lowell Road	Central Street	Birch Street	16-inch	3,250
Ferry Street	Webster Street	Library Street	16-inch	800
Lowell Road	Wason Road	River Road	12-inch	5,000
Patricia Drive	Laurant Drive	Alvirne Drive	16-inch	1,630
Alvirne Drive	Patricia Drive	End of Alvirne Drive	16-inch	770
Cross-country	End of Alvirne Drive	End of 16-inch pipe in Derry Road	16-inch	1,170
Sagamore Park Road	End of pipe on Sagamore Park Road	Lowell Road	12-inch	1,100
Pelham Road	Lowell Road	Burns Hill Road	12-inch	550

Source: Weston and Sampson Engineers, Inc., *Town of Hudson Water Distribution System Study*, January 2002.

2. Existing and Future Water Demand and Capacity

The 2001 *Town of Hudson Water Distribution System Study* examined existing and future water demand and capacity. An estimated 19,048 people were served by the water system in 2000 and an estimated 28,350 people will require service in 2020.

a. Water Demand

Table VIII-14 summarizes the average demand for 2000 (actual) and at five-year intervals to 2020 (projected).

Table VIII-14. Average Water Demand, Hudson 2000 - 2020

Year	Population Served	Average per Capita Demand (gallons per capita per day)	Average Daily Demand (million gallons per day)
2000	19,048	82.4	1.57
2005	22,950	86.3	1.98
2010	24,525	90.6	2.22
2015	26,550	95.2	2.53
2020	28,350	100.0	2.84

Source: Weston and Sampson Engineers, Inc., 2002.
Note: 2000 is actual demand. 2005 to 2020 is projected.

The average per capita demand projected for 2005 to 2020 in Table VIII-14 was determined by assuming that the trend of residents using more water per capita will continue into the future. This need not be the case given the implementation of appropriate water conservation measures; however, the more conservative figures are appropriate for the purpose of this analysis.

The average daily demand is not the only measure of water system demand. The peak day and peak hour demands, both expected to occur in the driest and hottest part of the summer, are also important. The maximum day demand is projected by multiplying the projected average day demand by a ratio of 1.5. The peak hour demand is projected by multiplying the maximum day demand also by 1.5. Peak demand is summarized in Table VIII-15.

Table VIII-15. Peak Water Demand, Hudson 2000 - 2020

Year	Max. Day Demand (million gallons per day)	Peak Hour Demand (million gallons per day)
2000	2.35	3.53
2005	2.97	4.46
2010	3.33	5.00
2015	3.80	5.69
2020	4.26	6.39

Source: Weston and Sampson Engineers, Inc., 2002.
Note: 2000 to 2020 is projected. 2000 actual not available.

b. Water Supply

The three wells in Litchfield are capable of supplying a safe yield of 1.89 mgd. Of that supply, approximately 15% is supplied through Pennichuck Water Works to the Towns of Litchfield, Pelham and Londonderry. Therefore, 1.61 mgd is available from the wells for Hudson users. Approximately 1.57 mgd was demanded by Hudson users in 2000 and the excess demand was supplied by Pennichuck Water Works Treatment Plant. Demand in 2020 is estimated to be 2.84 mgd, indicating that water supply above that available from the Litchfield wells will be needed. Therefore, Hudson should continue to look for potential supply as well as implement policies and procedures to decrease the per capita water use.

3. Solutions

By the year 2020, the demand for water in Hudson will exceed the amount of water available in the Litchfield wells. It is recommended that the Town of Hudson find potential well sites within the Town to address this deficiency. In the meantime, the Town can address current water issues by decreasing the per capita water use through various water-saving policies such as implementing Odd-Even Watering restrictions and requiring new site plans to include drought resistant landscaping.

In addition to local water issues, a number of events have occurred to illustrate the need for further water supply analysis on a regional basis. These events include a rising peak demand throughout the Merrimack Village District system,[19] the aforementioned concern with the impact of the Dame and Ducharme Wells on the water level in Darrah Pond[20] and the incidence of drought in recent years. To address these issues, the Nashua Regional Planning Commission is working with member communities, local water providers, the Public Utilities Commission, other Regional Planning Commissions, the NH DES, the NH Division of Fire Safety and Emergency Management and the US Geological Survey to secure funding for a comprehensive water supply and demand study for southern NH. A study committee has been formed which meets on a regular basis. The composition of the committee is expanding as more municipalities become interested in the topic. Hudson has been an active participant in these proceedings. Enabling legislation to allow for expanded inter-municipal bonding authority was passed in June 2003.[21]

[19] Merrimack Village District, *Ad Hoc Committee on Demand Strategy and Naticook Aquifer*, October 2000.
[20] Weston and Sampson Engineers, Inc., *Final Report Dame and Ducharme Well Safe Yield Study*, March 14, 2002.
[21] Legislation can be viewed at: http://www.gencourt.state.nh.us/legislation/2003/HB0361.html

K. PUBLIC SEWER

1. Existing Conditions

Hudson's public sewer infrastructure is owned by the Town and utilizes the City of Nashua wastewater treatment plant to process sewage. The Town has an agreement with the City of Nashua to utilize 12.58% of the capacity of the wastewater treatment plant. The agreement provides the Town with 2.0 million gallons per day (mgd) of treatment capacity.[22] The existing sewer infrastructure is limited to the more densely populated areas of Town along Ferry and School Streets, and the area bounded by Melendy Road, Pelham Road and the Merrimack River (see Map VIII-1). The sewer line capacity is approximately 4.0 mgd. The Town was processing approximately 1.0 mgd of sewage in 2002, down from approximately 1.5 mgd in 2000. The decrease in the amount of sewage is likely due to a drought and economic conditions.

The Town of Hudson Sewer Master Plan, as amended in 1999, indicated that there remains approximately 200,000 gallons of average daily flow available within the 2.0 mgd limit established by the inter-municipal agreement with the City of Nashua.[23] In order to fairly allocate the remaining sewer capacity among the land uses permitted in the zoning ordinance, new procedures for making sewer allocations were adopted by the Board of Selectmen in 2000.[21] These procedures generally reserve the remaining capacity for the area within the sewer service boundary (see Map VIII-3).

The limitations on sewer expansion due to limited capacity of the sewage treatment plant and the inter-municipal agreement can have significant impact on the type and scale of development within the Town. The limitations essentially ensure that new development in the outside the sewer service boundary will develop at a much lower density due to larger lot sizes needed to accommodate septic systems and as required by the zoning code.

2. Future Needs

The Town has undertaken a study as part of the Sewer Master Plan to evaluate methods to reduce infiltration and inflow into the Town's sewer system. Implementation of the recommendations of the study may result in some limited increase in sewer system capacity; however, any further geographical expansion of the sewer system will be dependent upon expansion of the City of Nashua wastewater treatment plant.

3. Solutions

In order to preserve the 2.0 mgd capacity of the sewer system, the Town should continue to enforce the sewer limitation allocation procedures and encourage the concentration of new development and redevelopment within the sewer system service boundary.

L. IMPACT FEES

Impact fees are a charge on new development that is proportional to the impact of that new development on the infrastructure needs of the community. Impact fees are considered an Innovative Land Use Control and are defined in NH RSA 674:21.V as "*… a fee or assessment imposed upon development, including subdivision, building construction or other land use change, in order to help meet the needs occasioned by that development for the construction or improvement of capital facilities owned or operated by the municipality, including and limited to water treatment and distribution facilities; wastewater treatment and disposal facilities; sanitary sewers; storm water, drainage and flood control*

[22] Town of Hudson, *Amendment to the Hudson Town Code Chapter 270, Sewers*, March 15, 2000.
[23] Nashua – Hudson Wastewater Treatment Agreement, December 1978.

facilities; public road systems and rights-of-way; municipal office facilities; public school facilities; the municipality's proportional share of capital facilities of a cooperative or regional school district of which the municipality is a member; public safety facilities; solid waste collection, transfer, recycling, processing and disposal facilities; public library facilities; and public recreational facilities not including public open space."

Impact fees were adopted in 1996 by an amendment to the Hudson Zoning Ordinance to enable the Town to levy the fees. The Town then developed an Impact Fee Schedule to determine the amount of the fees and to identify which capital improvements they would apply to. The Fee Schedule was updated in 2000[24] and involves an intensive study of the impact of new development, by type, on facilities scheduled in the Capital Improvements Program. Currently, impact fees in Hudson are used to raise funds for future public school facilities (grades 1 to 8), library facilities and for roadway improvements to NH 3A, 102 and 111. In 1996, the potential for impact fees to partially fund new recreation facilities was considered, but such fees were determined to be unfeasible as impact fees cannot be used to fund new facilities needed to serve the existing population. Impact fees may be useful for funding future Fire Department and/or High School facilities, pending further study.

M. RECOMMENDATIONS

1. Town Hall

- Procure an Architect to conduct a Town of Hudson Space Needs Study to pinpoint the exact amount of space required to accommodate existing and projected future employees.
- Consider the costs and benefits of whether to: 1) expand the existing Town Hall on the existing site; 2) purchase and rehabilitate an existing building, preferably near the existing facility; 3) construct a new facility, preferably near the existing facility; or 4) relocate to a different area of Town.
- The architectural treatment and site design of any expansion of the existing Town Hall or construction of a new facility should reflect Hudson's community character.

2. Library

- Expand the existing library to 25,000 ft^2 on the existing and adjacent sites.
- The architectural treatment and site design of the expansion of the existing Library should reflect the existing historically significant building and Hudson's community character.
- Consider shared parking for the expanded library and the Town Hall facility.
- Continue the use of impact fees as a source of revenue for new Library facilities required to accommodate future population growth.

3. Police Department

- Construct an approximately 13,000 to 15,000 ft^2 addition to the existing facility to accommodate the department's expansion through 2020.
- Develop a joint dispatch center with the Fire Department.

[24] Bruce C. Mayberry, Planning Consultant, *Impact Fees Methodology Update, Hudson, NH,* October 2000.

4. Fire Department

- Procure an Architect to conduct a Fire Department Space Needs Study to consider the floor area and location of each Fire Department facility needed to 2020.
- Investigate the need to construct a new Central Fire Station to accommodate the Fire Protection and EMS needs of the central part of Hudson to 2020.
- Continue planning for expanded or relocated facilities in the south and north ends of Hudson in order to limit response times and provide adequate space for additional Fire Fighters and a training facility.
- Develop a joint dispatch center with the Police Department.

5. Recreation

- Implement the Parks and Recreation Department Long-Range Plan.
- Continue planning for the design and construction of new recreation facilities based on the results of the study.
- Implement the *Benson's Property Master Plan*, including the development of additional playgrounds, playing fields, hiking trails and other recreation facilities as needed.

6. Solid Waste

- Continue to utilize private contractors for curbside solid waste and recycling pickup.

7. Department of Public Works

- None.

8. Public Schools

- None.

9. Public Water Supply

- Continue to actively participate in the process of regional water supply planning.
- Implement the recommendations of the 2001 *Town of Hudson Water Distribution System Study* as amended by the 2001 *Dame and Ducharme Well Safe Yield Study*, including finding potential well sites in Hudson.
- Implement policies and procedures to decrease per capita water use.
- Consider the use of impact fees as a source of revenue for new water supply facilities necessary to accommodate future population growth.

10. Public Sewer

- Continue to enforce the sewer limitation allocation procedures.
- Continue to encourage the concentration of new development and redevelopment within the sewer system service boundary within the limits of the sewer capacity.