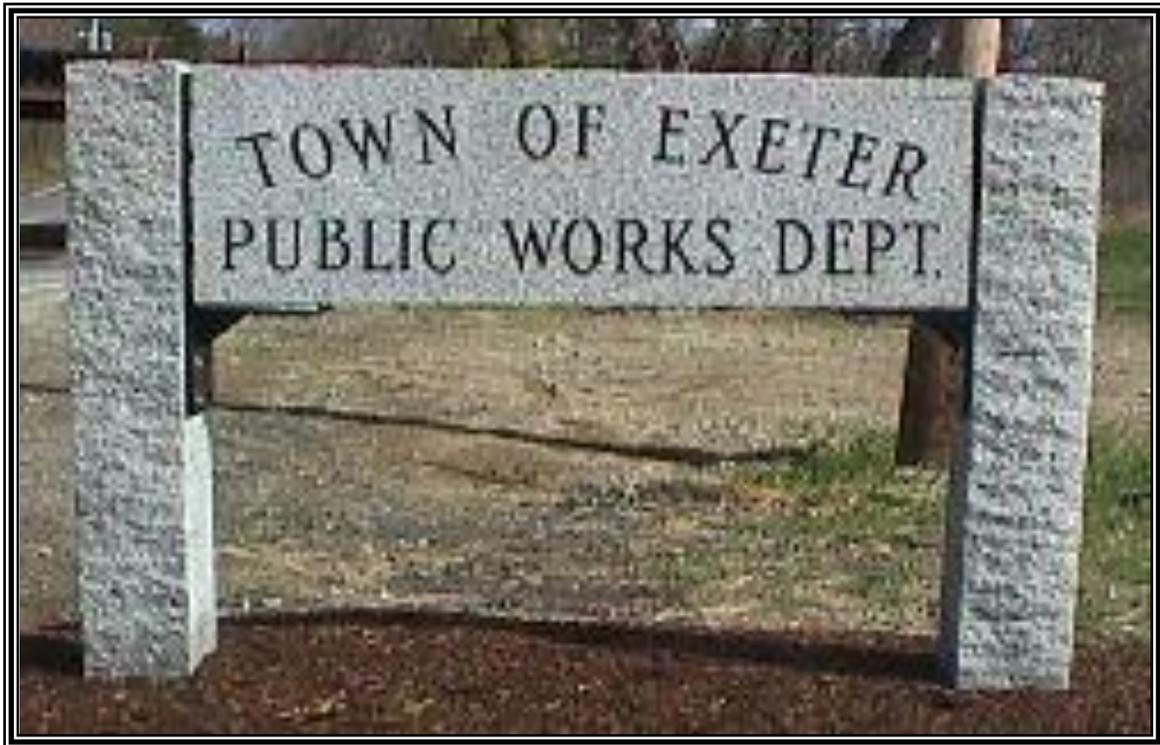


CHAPTER 4

UTILITIES AND PUBLIC SERVICES

**EXETER MASTER PLAN
2004 UPDATE**



SEPTEMBER, 2004



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Utilities and Public Services

1. Introduction

Exeter's public and private utilities and public services, which include water, sewer, electric, gas, telecommunication utilities, solid waste disposal and recycling services will be reviewed in this Chapter. The presentation of these topics is purposely brief; additional information regarding these utilities and services may be obtained from either the Town, or the appropriate utility company. While it is the intention of this Master Plan to plan for Exeter's future, the Chapter also briefly discusses the advances in Utilities and Public Services made since the adoption of the last Master Plan.

Utilities and public services can have a direct and significant impact on the future development of a community and therefore are an important consideration in the Master Plan. Utility capacity and location are often decisive in determining how and when land will be used. In considering future plans for utility development or expansion it is important to consider these effects. These decisions should be made by the Town and should be consistent with the development goals stated in this, and future Master Plans. Utility infrastructure expansion decisions should not be driven by development, even if the costs are entirely borne by those involved with such developments.

This chapter, like others in this Master Plan, contains goals, a narrative description of the utility and follows with recommendations for each topical area. Many of the goals and recommendations contained in this Chapter resulted from the two visioning sessions held in anticipation of the development of this chapter.

2. Water Service

GOALS:

Provide quality municipal drinking water as well as water for fire suppression to residential, commercial and industrial sites throughout the Exeter service area

Meet current and future state and federal regulations (primary drinking water standards), and to address customer concerns such as taste, odor, and appearance (secondary drinking water standards).

Ensure that the water resources and public water supplies of the town are well protected and conserved.

CURRENT CONDITONS:

Exeter’s municipal water system is administered by the Public Works Director and managed by the Water and Sewer Superintendent. Water service policy direction is provided by the Board of Selectmen and the Water and Sewer Advisory Committee. The Committee is charged with assisting in “...the planning and developing of the water and sewer system of the Town.” The five person Committee, all of whom serve at the pleasure of the Selectmen, are a source of citizen input to the utility, act as a sounding board for staff initiatives and act on customer requests for adjustment to water and sewer charges. The Town Manager, the Public Works Director and the Water and Sewer Superintendent staff the Committee. During 2003 the Committee took an active role in the details surrounding the design of the new Water Treatment Plant.

As evidenced by the Water Source Information table below, the vast majority of Exeter’s residents (84.3%) utilize municipal water, which includes water provided by a private community well. This reliance on municipally provided water service only enforces the need to maintain quality distribution infrastructure, protect the water resources, and ensure adequate water treatment.

Table UP-1
Water Source for Exeter Households

SOURCE OF WATER	Housing Units	% Total
Public system or private community well	4,501	84.3%
Individual well Drilled	681	12.8%
Individual well Dug	93	1.7%
Other source	58	1.2%

Source: US Census Bureau, 1990, This data was not collected by the US Census Bureau in 2000.*

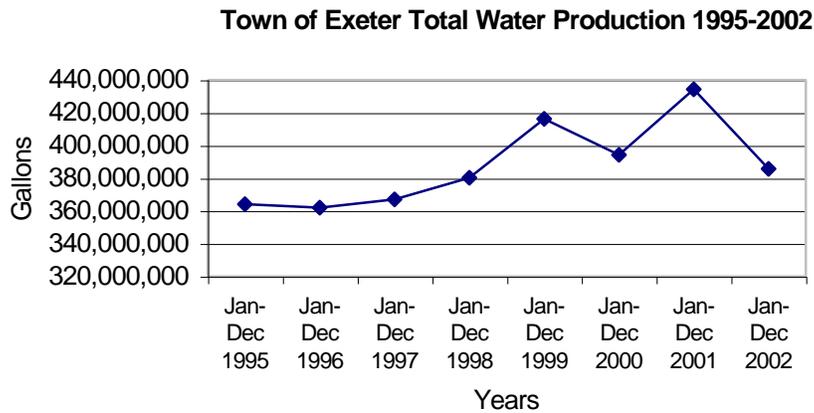
Water Usage:

The total water produced from January 1995 thru December 2002 was 3,104,184,381 gallons. The graph represents the total water produced: Finished water, Lary Lane Well, and Skinner Springs.

Water Service Area:

Based on information from the Office of State Planning population and GIS mapping from 1995, approximately 77% of the Town’s population (12,899) was served by water system. (Ref. CDM Jan. ‘02 Water System Evaluation Study) As the population increases and in-fill development continue, demands on Town services will also increase.

Figure UP-1



Water Sources & Water Quality:

Exeter’s water system utilizes the Exeter River as its principal source of water, accounting for approximately ninety percent (90%) of the average demand of 1.2 million gallons per day (mgd). A dam on the Exeter River in Brentwood controls 60% of the water supply watershed. Based on generalized run-off conditions, the safe yield is approximately 6 mgd. When the dam isn’t releasing water during low-flow (summer), the safe yield drops to 2.6 mgd. The other source of raw water is the Exeter Reservoir (Waterworks Pond), which is principally used during the winter months and is fed by Dearborn Brook - a Class A watercourse. The drainage area is about 1.7 sq. miles, and has a surface area of about 18-25 acres. A continuing concern for the future is development near or upstream of drinking water sources. The Town should continue to preserve as much land as possible abutting or within the vicinity of water sources to reduce potential negative impacts from erosion and run-off.

Table UP-2
Exeter River (Mid-Spring to Late-Autumn)
Raw water sample measurements

<u>Parameter</u>	<u>Minimum</u>	<u>Average</u>	<u>Maximum</u>
pH	6.24	6.87	7.52
Alkalinity, mg/L as CaCO ₃	7.00	19.70	29.00
Hardness, mg/L	20.00	34.90	46.00
Turbidity, NTU	0.87	1.97	8.90
Temperature, °C	6.80	16.70	23.40
Chlorides, mg/L	20.00	30.40	48.00
Color (apparent color units)	41.00	81.50	152.00
Iron (Fe, Total), mg/L	0.56		0.60
Manganese (Mn, Total), mg/L	0.99		0.11
Total Organic Carbon, (TOC) mg/L	6.48		7.50

Notes: 1. Based on daily records from April 23, 2000 to November 12, 2000
2. Fe, Mn, & TOC based on sampling conducted Sept. 20 and Sept 28, 2000

These tables on raw water measurements reveal aspects of each source's water quality characteristics.

Table UP-3
Exeter Reservoir (Winter Months)
Raw water sample measurements

<u>Parameter</u>	<u>Minimum</u>	<u>Average</u>	<u>Maximum</u>
pH	6.27	7.12	7.48
Alkalinity, mg/L as CaCO ₃	14.00	23.20	29.00
Hardness, mg/L	32.00	49.80	76.00
Turbidity, NTU	1.30	2.54	10.00
Temperature, °C	1.90	6.50	18.50
Chlorides, mg/L	28.00	43.70	60.00
Color (apparent color units)	26.00	45.90	85.00
Iron (Total), mg/L		0.228	
Manganese (Total), mg/L		0.103	
Total Organic Carbon, mg/L	6.45		6.85

Notes: 1. Based on daily records from Sept. 28, 1999 to April 22, 2000
2. Fe, Mn, & TOC based on sampling conducted Sept. 20 and Sept 28, 2000

The Lary Lane Well, which is adjacent to the Exeter River and south of the river water intake pipe, is a groundwater source that is pumped directly into the distribution system due to its high standard of water quality. The only chemicals added to the well water are calcium hypochlorite tablets for disinfections, and a blended poly-phosphate solution to sequester the iron & manganese, and corrosion control. In 2001, the EPA established new drinking water standards for arsenic. The maximum containment level (MCL) changed from .05 mg/l to .01 mg/l. Lary Lane well is tested monthly, and tests have shown that arsenic concentration have been at or slightly above the legal standards. LLW will need to be in compliance with the new standards by 2006. An assessment on the long-

term use of LLW will determine whether future treatment processes will be necessary.

Table UP-4
Lary Lane Well
Raw water sample measurements

<u>Parameter</u>	<u>Minimum</u>	<u>Average</u>	<u>Maximum</u>
pH	7.61	7.96	8.30
Alkalinity, mg/L as CaCO ₃	83.00	104.40	110.00
Hardness, mg/L	50.00	109.50	130.00
Turbidity, NTU	0.06	0.227	0.62
Chlorides, mg/L	14.50	21.70	34.00
Color (apparent color units)	0.00	3.80	8.00
Iron, mg/L ⁽¹⁾	0.065	0.139	0.376
Manganese, mg/L ⁽¹⁾	0.141	0.239	1.263
Arsenic, mg/L ⁽²⁾	0.006	0.01	0.015
Radon Gas, pCi/L ⁽³⁾	690.00	723.30	760.00

Note: Based on monthly reports from November 1999 to October 2000, unless noted

⁽¹⁾ Typically expressed as "Total" when form not specified

⁽²⁾ Sample taken 12/6/89, 8/26/92, 12/28/93, 10/16/95; six samples taken between December 2000 and May 2001

⁽³⁾ Per samples taken 12/6/89, 8/26/92, and 10/16/95

The Skinner Springs Wells, located over the town line in Stratham off Route 51, provide a supplemental source of water that only needs the slow-sand filtration. Two other well locations near the raw water intake at the Exeter River pump station include Gilman Well and Stadium Well and are inactive due to poor water quality and needed repairs.

Table UP-5
Skinner Springs
Raw water sample measurements

<u>Parameter</u>	<u>Minimum</u>	<u>Average</u>	<u>Maximum</u>
pH	6.60	6.88	7.30
Alkalinity, mg/L as CaCO ₃	43.00	48.70	52.00
Hardness, mg/L	68.00	84.10	96.00
Turbidity, NTU	0.055	0.219	0.970
Chlorides, mg/L	35.50	48.30	88.00
Color (apparent color units)	0.00	3.40	11.00
Iron, mg/L ⁽¹⁾	0.002	0.055	0.114
Manganese, mg/L ⁽¹⁾	0.00	0.012	0.019
Arsenic, mg/L ⁽²⁾	Not detected	Not detected	Not detected
Radon Gas, pCi/L ⁽²⁾	580.00	840.00	1100.00

Note: Based on monthly reports from November 1999 to October 2000, unless noted

⁽¹⁾ Typically expressed as "total" when form not specified

⁽²⁾ Per samples taken August 26, 1992 and October 16, 1995

The choice of using reservoir or raw river water depends for the most part on water conditions. All sources require some degree of treatment to improve the water quality. Please see **Map UP-1 Public Utilities and Services** for the location of the Town's water supply sources.

Additional details on the surface water and groundwater resources in Exeter can be found in the "Exeter Water Resource Management and Protection Plan" - Chapter 10. That document discusses the potential threats to water quality and addresses the regulatory and non-regulatory measures that can be taken to protect water resources. The water plan also identifies the community and non-community public water systems that rely on well water to supply such uses as manufactured housing parks, cluster development, and campgrounds.

Water Treatment Plant:

The water treatment plant on Portsmouth Avenue can treat raw water pumped from the Exeter River (mid-spring to late-autumn) through a twelve inch pipe along Portsmouth Avenue or treat water supplied by a sixteen (16) inch pipe from the Exeter Reservoir (winter months). When using the Exeter River as the source, potassium permanganate (KMnO_4) is added at the River Pump Station to increase the detention time for the oxidation of manganese (Mn) and iron (Fe). When using the reservoir, KMnO_4 isn't added until the inlet chamber at the head of the treatment process. The detention time isn't needed during months with colder temperatures. In the past, manganese and iron have caused some color issues within the distribution system.

The treatment process at the water treatment plant (WTP) utilizes a slow-sand filtration as the primary process, but employs adsorption clarifiers & settling basins to aid in the water cleaning process. With the addition of a few chemicals, these processes become a working system to produce quality, potable drinking water for Town residents. Liquid chlorine is added for disinfection to address primary drinking water standards. Use of liquid chlorine as a disinfectant has been considered the industry standard for decades.

Work has begun on replacing the existing plant with a new 3.0 mgd (million gallons per day) plant located on town-owned land adjacent to the reservoir. The Exeter Sportsman Club previously used the area as a shooting range. The following outlines pros & cons for building the new WTP:

Pros:

- Replace aging infrastructure (facility and equipment).
- Locate new WTP proposal site away from floodplain.
- Implement new treatment technologies to meet new drinking water quality standards.
- Reduce water wasted for cleaning processes (25% down to 4-10%).
- Improve operator safety.
- Improve fire protection.
- Automate new plant using SCADA software.
- Cost to retrofit existing plant is greater than or equal to new construction.

Cons:

- Proposed site will displace the Exeter Sportsman Club.
- High lead concentrations exist in the proposed site soils.
- Estimated cost is for the new WTP is \$15-18 million.
- Residential water rates would increase substantially.
- Pipe infrastructure may need immediate upgrade to handle upgraded hydraulics.
- Costs to decommission the existing WTP would be realized.

Exeter's River Dams

The Great Dam at the Exeter River was built in 1914 by Exeter Manufacturing Company. The dam is 111 feet long and is 15 feet in height. It was originally built to supply power to the mill. Later, water from the river was used in the manufacturing process. Since being gifted to the Town in 1981, the only work done on the dam, in addition to the NH Fish and Game's work on the fish ladder, is repair of the maintenance gate in 2003.

Water impounded by the Great Dam is used as the Town's municipal water supply, fire fighting and recreation. The Exeter Mill Apartments and Phillips Exeter Academy use the water for multiple purposes.

Pickpocket dam was built in 1920, also by the Exeter Manufacturing Company. Dimensionally it is 130 feet long and is 15 feet in height. Originally built to maintain a reservoir to provide back-up water supply for mill power and processing functions, it too was gifted to the Town in 1981.

Water Rates and Costs:

Water rates for the Town of Exeter are designed to cover the Water & Sewer Department's budget. The budget is divided into 4 areas: Wastewater plant, water treatment plant, distribution, and collection. The revenues generated from the per gallon usage charge are used to compensate the water and wastewater treatment plants' budgets. The revenues generated from the flat rate service charge are used to compensate the distribution and collection budgets.

Water Distribution:

Exeter's water distribution system consists of cast iron, asbestos cement, and ductile iron pipes. There about 50 miles of pipe ranging from 4 to 16 inches in size (diameter). These mains provide water to approximately 275 hydrants, about 3200 meter services, and the flow of water through the distribution system can be controlled by about 470 valves.

The Town spent \$130,000 in 2002 upgrading old water lines in an effort to reduce leaks and improve the distribution system and is scheduled to spend an additional \$400,000 in 2007.

In addition, Exeter makes use of three water storage tanks to improve water pressure and help supplement emergency storage. Two of these storage tanks, one on Fuller Lane off Hampton Road and the other off Epping Road, have a one million gallon storage capacity. A third water tank, with 200,000 gallons usable storage capacity, was constructed in 1993 off Cross Road to address the Kingston Road service area's long-standing problem of low water pressure. This tank provides the system with adequate fire hydrant pressure, as well as residential water service to the west end of Town.

In addition to plans to build a new water treatment facility, the Town has long term plans to replace the Epping Road storage tank with a higher capacity tank and replace and upsize the water distribution system in the vicinity of Epping Road in order to improve fire fighting capacity. This project is estimated at 4.4 million dollars and is planned for 2007 and 2008.

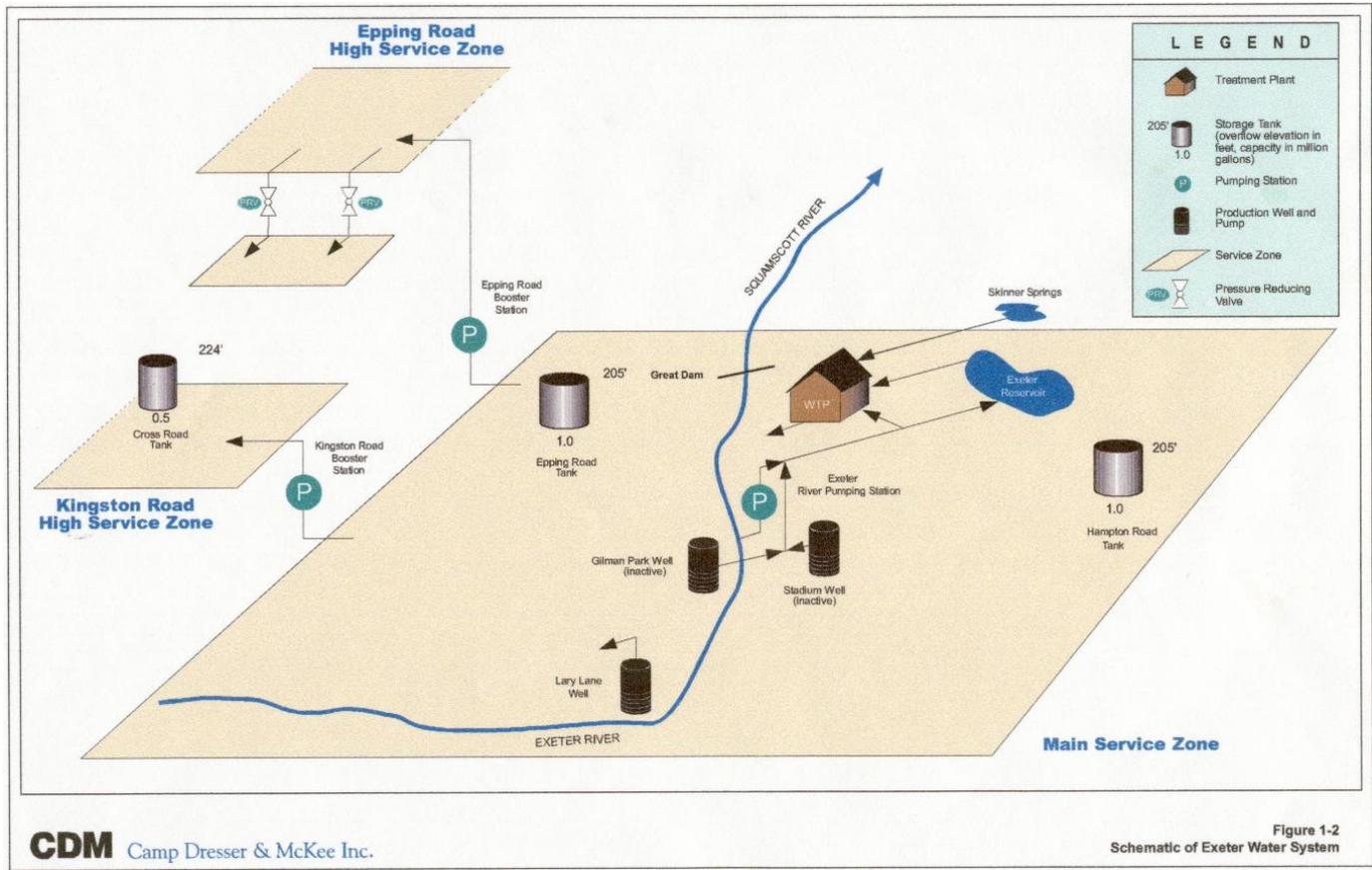
The Town's water distribution system also includes two booster pumps: one to help increase water pressure to the Exeter Industrial Park for fire protection and another one located on Kingston Road to improve service to that area.

Improved mapping of the system's pipe sizes and connections have allowed computerized modeling to be done in order to assess the impact of increased use from new development. For the location of the Town's water distribution system, please see **Map UP-1 and Figure 1, Schematic of Exeter Water System.**

The Town has no plan to extend its existing water distribution system beyond the area now served. Some in-fill extensions of service will occur as development takes place adjacent to the existing system. (*See Land Use Section 4.7, pg LU-33*). The Town's policy on extending municipal water service is that, upon approval of the Selectmen, the system may be extended or capacity increased at the developer's expense. If additional capacity is needed for existing users or new development, the Town will require the developer or proposed water user to size the improvements accordingly.

The Town will face many challenges related to the water system in the future, including:

- The need for scheduled maintenance and improvement of the system;
- The protection of water sources both locally and regionally;
- Water conservation and protection education of resource users; and
- The feasibility of connecting Exeter's distribution system to abutting community and/or commercial systems.



RECOMMENDATIONS:

1. The Public Works Department should develop a long range plan for the maintenance and improvement of the municipal water treatment and distribution systems based upon the recommendations set forth in the Camp Dresser & McKee “Water System Evaluation Study” dated January 2002.
2. The Town should continue to actively enforce all local regulations that will ensure the protection of the Town’s drinking water supply. (See Land Use Recommendation # 4, pg. LU-29)
3. The Town should work cooperatively with surrounding seacoast communities to establish water system interconnection(s) to reduce the probability of an individual system failure.
4. The Town should monitor public groundwater for the presence of contaminants to ensure that the municipal and private (ground) water supplies continue to be safe by meeting all state standards for drinking water.

5. The Town should work cooperatively with surrounding seacoast communities to develop a regional water management plan. This study may be undertaken in concert with the State groundwater resources study.
6. The Town should develop a town-wide program with measurable goals to educate property owners about water consumption and conservation.
7. The Public Works Department shall develop a policy that requires any water distribution expansions to be consistent with the land use objectives of this Master Plan. *(See Land Use Chapter, Section 4.7, pg. LU-30)*
8. The Water and Sewer Advisory Committee should periodically investigate the feasibility of selling excess water to potential out-of-town users. This investigation should focus on the costs and benefits of such a sale(s) including environmental considerations and establish guidelines to determine when such a sale would be appropriate.
9. The Public Works Department and the Water and Sewer Advisory Committee should ensure that all water system operations are consistent with the recommendations set forth in the Dearborn Brook Watershed Management and Protection Plan.
10. The Town should study impacts in management and operations of the dams regarding land and water uses, flood control, water quality, environmental habitat, public safety and recreation.

3. Sewer System

GOALS:

1. Ensure the continued provision of adequate and quality municipal sewerage treatment for residential, commercial and industrial users throughout the service area.
2. Prepare a long-range operations and capital improvement plan to ensure that Exeter's wastewater distribution and treatment systems operate effectively and efficiently.
3. Improve quality of effluent as it relates to the health of the Squamscott River and the Great Bay estuary watershed.

CURRENT CONDITONS:

The Town of Exeter maintains and operates a municipal wastewater treatment and collection system that serves approximately 85% of the residents, as well

as many commercial users. The Exeter municipal wastewater system is administered by the Public Works Director and managed by the Water and Sewer Superintendent.

Table UP-6
Sewage, Disposal for Exeter Households

SEWAGE DISPOSAL	Housing Units	% Total
Public sewer	4,522	84.7%
Septic tank or cesspool	795	14.9%
Other means	16	.4%

source: US Census Bureau, 1990*

* This data was not collected by the US Census Bureau in 2000.

Since 1985, the Town has invested more money through bonds and sewer rates to improve the wastewater system than any other public utility. These improvements include upgrading the wastewater treatment facility, removing storm water inflow from the sewer system, refurbishing 3 sewer pump stations, and installing a new computerized alarm and monitoring system called Supervisory Control and Data Acquisition (SCADA).

Upgraded in 1990, the Wastewater Treatment Facility is a biologically based aerated lagoon system providing secondary wastewater treatment with a design capacity of 3.0 million gpd (gallons per day) for average flow and 7.5 million gpd for peak flow. Prior to completion of the new facility, the Town had been operating under a primary treatment aerated lagoon system first developed in the mid-1960's. Construction of the new Wastewater Treatment Facility was driven by a State moratorium imposed in 1987 on new sewer connections, due to insufficient treatment capacity and the discharge of effluent to the Exeter River, which was not in compliance with United States Environmental Protection Agency (EPA) regulatory limits. Upon completion of the new Wastewater Treatment Facility, the Town instituted a sewer impact fee assessment to help fund the cost of the Treatment Plant's expanded capacity. Please see **Map UP-1** for the location of the Town's Wastewater Treatment Facility.

The current capacity of Exeter's wastewater treatment plant is adequate for on-line users and will accommodate limited future growth. However, it does not have sufficient capacity to accept septic from Exeter's residents that rely on private septic disposal systems. Septic pumped from septic systems is disposed of at the Hampton wastewater treatment facility in accordance with an inter-municipal agreement between Exeter and Hampton, as required by the State of New Hampshire Department of Environmental Services.

Another major infrastructure improvement completed is the combined sewer overflow (CSO) separation project. Virtually all of Exeter's sewer lines have now been separated from storm water drainage lines. Now during large rain events, the sharp increase in run-off from impervious surfaces go to storm-drains rather than to the sewer-lines where potential overflows of sewer could

happen. Work will still continue on removing infiltration into the sewer system from illicit connections and leaking pipes and manholes.

The Court Street, Webster Avenue, and Westside Drive sewer pump stations have all been rebuilt and upgraded to provide additional capacity and replace aging equipment. All collection systems flow into the Main sewer pump station located behind 277 Water Street near Swasey Parkway. This pump station has been refurbished to replace aging equipment with new energy efficient pumps and controls.

A new high technology alarm and monitoring system called Supervisory Control and Data Acquisition (SCADA) has been installed that provides a more dependable system that alerts operators of failures such as failures at pump stations or the waste water treatment plant. The SCADA system also records operational data useful for maintenance and reporting requirements.

The Town monitors changes in and additions to use of the municipal sewer system by coordinating the issuance of building permits with the requirement that sewer impact fees be paid for new uses that generate more wastewater. This system also assists in regulating uses such as restaurants, industries, and automotive facilities that may discharge grease, oils, or other products into the sewer system that are detrimental.

While the Town has no plans to extend its present wastewater collection system beyond the present service area, some infill will occur as development takes place adjacent to the existing system. The Town's policy on extending municipal wastewater disposal service is that, upon approval of the Selectmen, the system may be extended or capacity increased at the developer's expense. Notwithstanding this policy, it is the goal of this Master Plan to ensure that any expansion of the system is consistent with and supported by the land use policies herein. (*See Land Use Section 4.7, pg. LU-30*)

For the location of the Town's wastewater collection system, please see **Map UP-1**.

RECOMMENDATIONS:

1. The Public Works Department should ensure that any future sewer system expansions are consistent with the land use policies and objectives set forth in this, and future Master Plans.
2. The Public Works Department should develop a long range plan for the maintenance and improvement of the municipal waste water treatment plant and sewer lines based upon the recommendations set forth in the October 1997/98 Camp Dresser & McKee's Phase I and Phase II "Infiltration/Inflow Study, Sewer System Evaluation Survey and Combined Sewer Overflow Study".

3. The Public Works Department should develop an instructional program to be implemented in Exeter's public and private schools to prevent chemical disposal and spillage into the municipal waste water system.
4. The Public Works Department should investigate the possible safe uses of 'gray' water.
5. Participate in regional, state and federal efforts to improve water quality of Squamscott and the Great Bay Estuary in order to meet shellfish standards by 2010.

4. Stormwater System

GOALS:

1. Initiate a "Phased Storm Water Evaluation Study" to assess deficiencies and create a long-term plan for handling future growth.
2. Develop, implement, and enforce a storm water management program designed to reduce the discharge of pollutants to the "maximum extent practicable" to protect water quality and to satisfy appropriate storm water quality requirements of the Clean Water Act (CWA).

CURRENT CONDITIONS:

The Exeter municipal storm water system is administered by the Public Works Director and managed by the Highway Superintendent. The storm water collection system includes pipes, catch basins, manholes, treatment structures, swales, and discharge points that collect and transport storm water to a receiving body such as a stream, river, pond and/or wetland.

Since 1985, the Town has completed a number of projects to remove storm water inflow from the municipal sewer system. Virtually all of Exeter's sewer lines have now been separated from the storm water drainage system. During this systemic upgrade, a number of new storm water pipes have been installed or replaced.

The Town has initiated a storm water permit system that requires review and approval of all new connections to the system. The Town has surveyed and mapped the entire municipal storm water system. A Phased Storm Water Evaluation Study, slated for 2004, will evaluate physical conditions and analyze hydraulic capacity of the existing storm water system.

New federal regulations require National Pollutant Discharge Elimination System (NPDES) permit coverage for certain storm water discharges. Exeter was

identified as having a small municipal separate storm sewer system (MS4), which is located in an urbanized area. As such, the Town is subject to EPA's Phase II Stormwater Program.

The Phase II Stormwater Program is the next step in EPA's effort to preserve, protect and improve the Nation's water resources from polluted storm water runoff.

As a regulated small MS4, the Town must develop, implement, and enforce a storm water management program designed to reduce the discharge of pollutants to the "maximum extent practicable" to protect water quality and to satisfy appropriate water quality requirements of the Clean Water Act (CWA). The Storm Water Management Program must include the six minimum measures listed below as well as an annual report to EPA summarizing progress toward achieving specific measurable goals:

1. Public Education and Outreach
2. Public Involvement/Participation
3. Illicit Discharge Detection and Elimination
4. Construction Site Storm water Runoff Control
5. Post Construction Runoff Control
6. Pollution Prevention/Good Housekeeping for Municipal Operations

The Phase II program is designed to accommodate a general permit approach. A Notice of Intent (NOI) serves as the application for the general permit. The storm water management program must be fully developed and implemented by the end of the first permit term, typically a five-year period.

The Notice of Intent was submitted to EPA. The town was issued a NPDES Stormwater Permit and granted authority to discharge stormwater by EPA letter dated 8 August 2003.

Annual reports are required to ensure the town is implementing the Best Management Practices included in the Stormwater Pollution Prevention Plan.

To date, the town has provided information and a display at the local Alewife Festival, conducted three storm drain stenciling activities using volunteers, and updated the "Site Plan Review and Subdivision Regulations" to incorporate NPDES regulation requirements.

RECOMMENDATIONS:

1. The Public Works Department should continue to permit new storm water connections to the municipal storm water system as a means to control and monitor system impacts, provided that these sites are designed to minimize excess stormwater and the release of storm water transmitted pollutants.
2. The Public Works Department in cooperation with other Town Departments should implement a public education program to provide infor-

- mation concerning the impact of storm water discharges on local water bodies especially water sources such as Exeter River and Dearborn Brook that provide drinking water supplies.
3. The Public Works Department should provide opportunity for the public to participate in the storm water management program.
 4. The Public Works Department should develop, implement, and enforce a program to detect and eliminate illicit discharges.
 5. The Public Works Department in cooperation with other Town Departments should develop, implement, and enforce a program to reduce pollutants in storm water runoff to the storm drainage system from construction activities.
 6. The Public Works Department in cooperation with other Town Departments should develop, implement, and enforce a program to address post construction storm water runoff as well as a program to inspect older existing drainage systems for determining degree of compliance with original design standards and developing a process to meet design standards.
 7. The Public Works Department should develop and implement a program with the goal of preventing and/or reducing pollutant runoff from municipal operations.
 8. In order to ensure stormwater runoff is not impacting stream systems, establish baseline survey information for all waterways and inspect natural systems to identify illicit discharges and potential contamination sources.
 9. Town staff from Department of Public Works along with others shall continue participation and collaboration with regional and local committees including the Exeter River Local Advisory Committee and the Dearborn Brook Watershed Committee.

5. Solid Waste Disposal

A. MUNICIPAL SOLID WASTE

GOALS:

1. Continue to plan and provide for appropriate, cost effective disposal methods and opportunities for recycling of solid wastes in the community.

2. Continue the 'Blue Bag' (pay-as-you-throw) system as a means of reducing recyclables from the waste stream, and reducing the Town's financial support of solid waste disposal through property taxes.

CURRENT CONDITIONS:

Prior to October 1993, the Town of Exeter collected and disposed of its solid waste at a municipally operated landfill site located off of Cross Road. In the same year the landfill was closed in compliance with Federal and State regulations.

Since this time, the town has contracted with an independent hauler to provide curbside pickup, transportation and disposal of household waste. Currently, Exeter has a contract with Waste Management Inc. to dispose of its solid waste at the Turnkey Sanitary Landfill in Rochester. In 2004, the Town will pay some \$400,000 for municipal solid waste disposal. The contract for disposal by Waste Management runs through March of 2008. Naturally, as Exeter continues to increase in population and expand its commercial base, waste disposal costs will continue to rise. Therefore, the Town must continually seek ways to recycle more waste while disposing of municipal solid waste in the most cost effective manner.

Blue Bag System

The town utilizes a "pay as you throw" system that requires disposal in pre-purchased 33 and 15 gallon plastic bags. The bags cost \$1.60 each for the 33-gallon size and 80 cents for the 15-gallon size.* Residents place the bags curbside on designated days for pick up and disposal in Rochester. The "pay as you throw" program has been very successful in many communities including Exeter – as the 'users' are reminded weekly the true costs of waste disposal, and the additional costs of not recycling.

The blue bag program applies only to residential properties. Most commercial operations and high-volume users contract privately with independent haulers to provide large volume containers for disposal purposes.

(* Prices of blue bags have changed since 2003 when this chapter was written. At the date of this printing in 2011, the price of blue bags was \$1.00 and \$2.00 for the two sizes.)

MUNICIPAL SOLID WASTE RECOMMENDATIONS:

1. The Town should continue to utilize the "pay as you throw" program as a method to encourage recycling and reduce the volume of waste.
2. The Town should consider the possibility of a regional solid waste disposal partnership as a way to reduce costs.
3. The Town should study alternatives and examine efficiencies of solid waste pickup and disposal.

B. RECYCLING

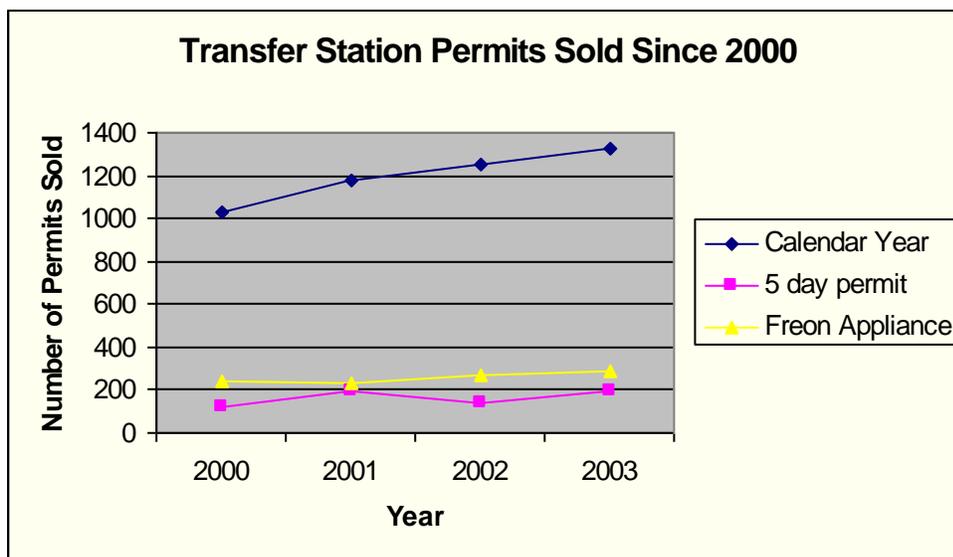
GOALS:

1. The Town should continue to promote and expand the municipal recycling program.

CURRENT CONDITIONS:

The town maintains a highly successful recycling program that includes curbside pickup of metal cans, including empty aerosols, mixed paper including magazines and phone books, corrugated cardboard, clear and colored glass, and a variety of plastic bottles and containers. All recycled items must be clean and clear of debris. In addition, the town accepts used oil that is used to heat Public Works Buildings, grass clippings and leaves which are composted, and batteries and scrap metal which are resold.

Figure UP-2



The transfer station is located on the west side of Exeter off Cross Road. There are three types of transfer station permits sold. A calendar year permit (\$7.00), a 5-day permit (\$2.50) and an appliance permit (\$6.00/freon appliance). The following items are accepted for disposal: wet cell batteries, water heaters, washers, dryers, dishwashers, microwave ovens, stoves, aluminum, metals, iron, bicycle frames, mufflers, aluminum/metal door and window frames with glass and/or wood removed. Appliances accepted for disposal include refrigerators and freezers, air conditioners, humidifiers, and dehumidifiers. Also accepted for disposal are brush, stumps and unpainted/untreated wood in the “stump dump” section of the transfer station.*

Twice a year the town has “bulky item” pickup days, once in the spring and once in the fall. Participants pay \$2.50 per sticker, which is attached to items to be removed. Typical items include furniture, mattresses, televisions, rugs and lumber.

In addition to providing means for Exeter residents to dispose of solid waste, bulky items and recyclables, the town also participates in and hosts an annual regional household hazardous waste collection day that provides an opportunity for residents and participating communities to safely dispose of a wide variety of hazardous wastes at no cost to the users. Examples of hazardous materials include computer monitors and parts, car batteries, fluorescent lamps and light bulbs, paint, asbestos, antifreeze, mercury, pesticides and herbicides, and hypodermic needles. In 2003, Exeter, Stratham, and Newfields paid 50% of the cost (\$9,075 total) of the program; the State Department of Environmental Services paid the other 50%. State funding of its Household Hazardous Waste Program has always been problematic. As a consequence the Town should ensure that local funding is available to continue this successful program.

(* Transfer station options and prices have changed considerably since 2003 when this chapter was written. As of Jan. 2011, an annual permit is \$10., a five-day permit is \$5., an appliance permit is \$7., a bulky item is \$5., electronics are \$10, construction waste bag or sticker is \$8. small recycle bins are \$12 and large recycle bins on wheels are \$45.)

RECOMMENDATIONS:

1. The Public Works Department should aggressively promote recycling by residents as a means of controlling waste disposal costs.
2. The Town should establish an educational program promoting recycling and composting.
3. The Town should consider extending the recycling program to include schools and commercial operations.
4. Transfer Station Permit sales, volume of disposed items and operation of the facility should be monitored annually to ensure that the operation is efficiently and economically run.
5. The Public Works Department should create a “swap shop” for the reuse of household items.
6. The Town should ensure that funding is available to continue participating in the hazardous waste program.

6. Electrical Service

GOALS:

1. The Town Administration should work to ensure proper and adequate electrical service in all areas of Town and work with all utility providers to achieve this goal.

CURRENT CONDITIONS:

The supply of electricity for the Town is provided by Unitil Energy Systems, Inc. Seacoast Division. Unitil Energy Systems, Inc. is a non-generating electric utility, obtaining its electric energy requirements through purchases from resources throughout the Northeast region.

The electric system supplying the Town consists of a 34.5 kV transmission system feeding three distribution substations. In general, the primary distribution voltage of the central downtown area of the Town and the outermost areas is 4.16kV. The 34.5 kV distribution system presently extends out along Epping Road, Kingston Road, Court Street, and High Street, and will extend to the outer areas as development warrants. The existing electric system has sufficient capacity and is well suited to meet the electric requirements of the Town as they exist now and are anticipated to exist over the next five years. The location of Exeter & Hampton electrical substations are shown on Map UP-1.

While the majority of electrical and utility lines are located on poles above ground, the Planning Board requires that all new subdivisions place utility underground to reduce long-term maintenance costs and reduce the visual clutter of utility lines which detract from Exeter's scenic character.

In an effort to beautify Exeter's downtown, there has been increased interest in recent years to bury utilities within the downtown area. While it is unlikely that Unitil would finance such an undertaking, the Town should pursue all available funding sources to complete the project that would likely have a positive effect on the success of downtown businesses and Exeter as a whole.

RECOMMENDATIONS:

1. The Town Administration in cooperation with the Chamber of Commerce and other groups should pursue all available funding sources to finance the burial of utilities in the downtown area.
2. The Town Administration should work with the Chamber of Commerce and other economic development agencies to ensure that adequate electrical service is provided to the commercially zoned areas of Town.
3. Encourage the use of energy efficient construction for all new buildings, public and private.

7. Natural Gas

GOALS:

1. The Town Administration should work cooperatively with natural gas providers to ensure adequate natural gas service in appropriate areas of Town.

CURRENT CONDITIONS:

Natural gas is used in homes and businesses for a variety of purposes including heating, cooking, hot water, and air conditioning. Natural gas is a clean burning fuel with fewer potential environmental threats than other fossil fuels. Northern Utilities Natural Gas Company supplies natural gas, through a network of underground distribution lines, to 2,215 customers in the Town of Exeter -- 1,703 residential and 512 commercial users. At present, future service area expansions are considered upon request and demand. There are currently no plans for immediate extensions to unserved areas.

While the Town has little influence over private natural gas providers, the Town should work with the utility company to ensure that the service areas meet the needs of present and future residential and commercial users. The Public Works Department should discuss service area expansions with the util-

ity company when any roadwork is planned adjacent to, or outside of the exiting service area to more easily facilitate expansion of the natural gas distribution area.

RECOMMENDATIONS:

1. The Public Works Department in cooperation with the Town Administration should work with the utility company to ensure that the service areas meet the needs of present and future residential and commercial users.
2. The Public Works Department should discuss service area expansions with the utility company when any roadwork is planned adjacent to, or outside of the exiting service area.

8. Telecommunication Facilities and Information Technology

GOALS:

1. The Town Administration should work to ensure adequate telecommunication coverage throughout all areas of Town, while also guarding against the unnecessary construction of towers in inappropriate locations.

CURRENT CONDITIONS:

At present, the Town of Exeter is served by two major 'land line' telecommunication companies, Verizon and Comcast, which provide direct service to homes and businesses. Both companies provide local telephone and high-speed internet services. Verizon uses traditional copper telephone wiring for telephone and DSL (digital subscriber line) internet, while Comcast uses a mix of fiber-optic and copper cable line to provide telephone, internet and cable TV services. A variety of electronic switching systems are used to accomplish this task. These services are currently provided to all homes and businesses in Exeter, however, DSL services are only available to homes and business located within approximately one mile of the central telephone switching facility located on Center Street in the downtown.

Comcast

The Town of Exeter is served by a 750 MHz cable system. The system is capable of delivering analog video, digital video and digital telephone and high-speed internet services.

Internet access via Comcast's system is available to both residential and commercial customers.

In addition to analog and digital video service availability, the system can deliver HDTV images to those customers who rent an HDTV compatible converter.

Before the end of 2003, Comcast expects to introduce video on demand services in New Hampshire marketplace.

Verizon

Verizon provides telephone and DSL high-speed internet service. Verizon plans to offer ADSL service to its customers in Exeter in 2003. Verizon has added a new telecommunications tower off Guinea Road for cell phone service.

Information Technology

“Information Technology” (IT) may mean very different things to different people. For this purpose, IT simply means electronic access to information. Communities all over the world are using IT to improve contact with and services for their citizens. Over the years, Exeter’s town departments have kept up with computer technology with varying success. The Town has its own web site at www.town.exeter.nh.us. The Library has computers for its users and other departments use a variety of software systems to aid their customers.

Improvements and updating technology to the demands of computers system users is a constant struggle. As the technology advances beyond user ability, IT management becomes difficult if not impossible. Furthermore, Exeter is at that stage where town-wide planning in regards to communications and IT issues should be addressed.

Recommendation: In an effort to keep up with ever-changing IT demands and to provide Exeter citizens with the best computer-driven services, the Town should hire an Information Technology Coordinator. One task of this person would be to develop a strategic plan for communications and information technology. Ultimately it is important to recognize the impact of IT and to develop a focused approach as to how Exeter may best utilize IT for the benefit of the community.

RECOMMENDATIONS:

1. The Planning Board should prepare a telecommunication ordinance to address location, aesthetic and other siting issues based upon the latest technology for this industry.

APPENDIX A
VISIONING SESSION RESULTS

2003 MASTER PLAN VISIONING SESSION UTILITIES AND PUBLIC SERVICES RESULTS

(Summarized Results)

Topic	Votes	Gold Star Votes ¹	Total Votes
WATER ISSUES			
Pursue regional water management/wastewater study and protect water quantity and quality by working with other communities	26	4	30
Support water treatment plant	14	6	20
Ensure adequate water supply for perpetuity	12	8	20
Town-wide education about water consumption & conservation - establish measurable goal	11	3	14
Research implications of development in Chester (Exeter River headwaters)	9	0	9
Integrate land use with water source protection	8	1	9
Ensure water system deficiencies are corrected	2	0	2
MTBE contamination of groundwater	2	0	2
Encourage Mill to modify coding system to use less water	1	1	2
Educate residents to discourage private sump-pump discharge into river	0	0	0
Fluorination of water	0	0	0
SEWER ISSUES			
Educational campaign for proper use of wastewater system	6	1	7
Explore recycling of gray water	4	0	4
Monitor septic leaching from private systems	1	0	1
Look at policy for developers to pay for additional sewer lines	0	0	0
WATER AND SEWER EXPANSION			
Ensure water and sewer extensions consistent w/master plan	18	4	22
Moratorium outward expansion of sewerage system	9	3	12
Pro-action planning for water/sewer limits, designate specific areas of town that will not have public utilities (permanent protection)	5	1	5
REFUSE / LANDFILL			
Set up a permanent or more frequent household hazardous waste disposal site	11	0	11
Study alternatives and examine efficiencies of solid waste disposal/removal	10	4	14
<i>Support "Blue Bag" program</i>	6	1	7
<i>Re-evaluate transfer operations to accommodate needs</i>	0	0	0
More frequent bulk curbside pickup	6	1	7
RECYCLE / REUSE			
Create "Swap Shop" for reusing of household items	20	8	28
Expand recycling program to include all plastics, more materials	4	3	7
Town pick up recyclables from businesses and schools (including PEA)	16	2	18

¹ Gold Star votes were considered the highest priority item for each participant.

Topic	Votes	Gold Star Votes ¹	Total Votes
Educate public on recycling and waste management - set goal for increase	3	2	5
Ensure that recyclables are REALLY recycled	1	0	1
Consider eliminating non-essential trash pick-up (Christmas Trees)	2	1	3
Establish program to educate residents about composting	0	0	0
ELECTRICAL / LIGHTING			
Bury underground utilities in downtown area	22	3	25
Improve street lighting and lighting controls to reduce light pollution	14	0	14
Coordinate/design overhead utilities to accommodate landscape features	3	0	3
Increase awareness and frequency of electronic and hazardous waste	1	0	1
TELECOMMUNICATIONS			
Long-term plan for telecommunications and provision of high-speed internet	7	1	8
Ensure access to 1st-rate telecommunications services	2	0	2
Ensure telecommunications are properly sited, etc. -- develop telecommunications ordinance	2	4	6
Monitor change from AT&T to Comcast or other utilities	1	0	1
OTHER			
Treatment and infiltration of stormwater	1	0	1
Develop regulations to control regional utility gas transmission	0	0	0
Encourage Unitil to remediate flooding problem in River Street Power substation	1	0	1
Improve Federal Post Office mailboxes (location, quality & maintenance)	1	0	1
Develop a sidewalk snow removal policy, expand current policy	0	0	0
Complete public and utility projects with greater rapidity	0	1	0