

PUBLIC WORKS

DPW ADMINISTRATION

LANDS AND NATURAL RESOURCES

DPW OPERATIONS

VEHICLE MAINTENANCE

TRANSFER STATION

CEMETERY

WATER AND SEWER DIVISION

WATER ADVISORY BOARD

DEPARTMENT OF PUBLIC WORKS



100 years. It feels that the Wright Building renovation has taken that long as opposed to its age. Fiscal Year 2007 saw the Wright Building reach substantial completion. It took a sincere team effort by all parties involved to restore this beautiful facility to its original grandeur. Many thanks are due, from the strong support of the Community Preservation Committee, Town Manager, Richard MacDonald, Board of Selectmen to Joe Grady, Conservation Director (my partner in crime), Al Skomial, Clerk of the Works (my right hand man), Mike Cresta of BC Construction and his capable team and Dan Ricciarelli and Zarak Ali of Finegold, Alexander and Associates. In particular, I need to thank the staff of the DPW for their efforts to complete the project. The Highway Dept. installed drainage around the entire facility to help stop the

chronic leaks into the Wright Building's basement. The Lands & Natural Resources Division did a great job landscaping the entire site. The Water and Sewer Division did what they do best. They installed new fire and portable water services to the facility and replaced the aging sewer connection. A great team effort by all involved.

The Fall of 2006 found us in the middle of constructing the addition to the Council on Aging parking lot. The Highway Dept. worked diligently on drainage, grading, paving and line-striping. The Lands & Natural Resources Division assisted with their expertise in landscaping. The project is now 100% complete and is being utilized extensively. A job well done!

We had a particularly busy Spring of 2007. Three projects were ongoing at the same time. We started with the first significant seawall restoration work the Town has done in many years. Several hundred feet of wall adjacent to the Marshfield town line had concrete toe protection installed along with the stone revetment supplemented and reset. The farthest southerly point of the Gurnet area seawall adjacent to Ocean Rd. South had about 60' of the wall totally replaced. The Town took advantage of a 50/50 grant with the state for the seawall work. The second project worked on was repairs to two bents on the Powder Point Bridge. These bad bents contributed to the bridge being down graded to a 4 ton limit. Currently we are hoping for an 8 ton limit after Mass Highway re-rates the bridge. An additional project that we took advantage of was a grant from Coastal Zone Management for a stormwater quality drainage project in Halls Corner. All three projects had to be completed by mid-June, two of which in order to obtain the grant funding. Fortunately all three projects went very smoothly and were completed below budget and ahead of schedule.

The early summer of 2007 had us working diligently on expanding the Mayflower Cemetery and constructing an addition to our columbarium. The new granite veneered columbarium will be an attractive addition to the cemetery.

Once again we have done exceptionally well with hiring new people into the Dept. We have picked up Dave Verity, a skilled tree man from the Town of Bridgewater and Dave Smith, a very well rounded individual within the Highway Dept. We were very fortunate to steal back Robert Sullivan from the Town of Plymouth for our Water Dept. The Water Dept. also brought on board Richard Nicholson and William Kresslar who are turning out to be great assets to the Dept.

On a solemn note, we lost a hard working co-worker and a dear friend over the 2007 Easter weekend. Louise Hatfield, our Office Manager will be sincerely missed. You never really know how much an individual gives to an organization until they're no longer there, not just in work performed but in the amount of character and integrity that are added to the organization. Louise was a person in her own league, someone you could count on, lean on in times of need and a friend you could confide in. Louise, we all wish you the very best and godspeed in your new journey.

You cannot be successful entirely through your own efforts. All of us, if we are to accomplish anything worthwhile, will do it largely through the help and cooperation of the people who work with us. – James E. Casey – 1947

RESPECTFULLY SUBMITTED,

Thomas E. Daley, P.E.
Director of Public Works

DEPARTMENT OF LANDS AND NATURAL RESOURCES



In 2007, The Town of Duxbury was awarded the Tree City USA Award for the sixteenth consecutive year. The National Arbor Day foundation along with the United States Department of Agriculture and the National Forest Service give the award each year to communities that prove a dedication to beautifying and preserving their lands.

Duxbury and many South Shore and Cape Cod towns are experiencing an epidemic amount of oak and maple tree mortality due to years of defoliation by Gypsy Moths, Canker Worms, Winter Worms and sporadic years of drought. The Department of Lands and Natural Resources along with NStar Electric have drastically increased their efforts to remove hundreds of hazardous trees from the one hundred miles of

roadway in Duxbury. Residents should monitor their own trees carefully to ensure that they are not becoming a hazard.

Together with the Duxbury Garden Club and Town Manager, Richard MacDonald, the Department of Lands and Natural Resources created town entrance plantings at the intersection of Route 14 and Route 139 and also on Route 3A at Woodridge Road. Both are beautiful additions to our scenic ways. The department also landscaped planting areas in the new Senior Center parking lot.

On the Building Maintenance side of our duties, the Department of Lands & Natural Resources recently took over responsibility for maintenance of the newly renovated Wright Building which was carefully renovated over the last two years. Currently we are examining a similar project at Tarkiln Community Center.

The department continues its efforts to serve the people of Duxbury by working with the other Town departments, citizens and organizations to ensure that our public lands, buildings, trees, open spaces and athletic facilities remain pristine sources of pride for the entire community.

I thank the employees of the Department of Lands & Natural Resources along with all of the employees of the Department of Public Works and other town departments for a great year.

Respectfully submitted,
Peter Buttkus
Manager of Buildings and Grounds
Tree Warden

DPW OPERATIONS HIGHWAY, VEHICLE MAINTENANCE AND FUEL DEPOT



The Highway Department made many improvements to the town this year. Projects included re-grading Bay Farm Field's parking lot by applying a ground bituminous product. The Blue Fish River parking lot was also re-graded and ground bituminous was put down along with a post-and-rail fence installed around the perimeter. A new ramp and float was built for the secondary landing for the Harbormaster at the Blue Fish River.

The west parking lot at Duxbury Beach was regraded and a drainage pit was installed. A bituminous mix was applied and new vertical white posts were installed around the perimeter of the lot. New cobblestone steps were added to the beach area. The seawall at Gurnet Road and Ocean Road North

received 1" thick steel plates to replace the traditional wood structure that, for years, Mother Nature would destroy.

The department was able to complete the paving, fencing and riprap for the Council on Aging and was able to resolve the many drainage issues occurring at the Wright Building over the past several years.

The department used two kinds of paint for line painting around town. We used 25,495 feet of high reflective epoxy and 87,211 feet of regular latex paint for a total cost of \$10,670.00 for the year.

The paving for this year totaled 6,746 tons most of which is reimbursed from the Commonwealth through Chapter 90 funding.

Some notable projects were:

Mattakeesett Court	48T
Island Creek Road	500T
St. George Street	1,665T
Harrison Street	915T
Old Church	192T
Water Dept. Shop	240T
Keene Street Parking Lot	144T
Cemetery Roads	168T
Autumn	1,720T
Loring Road	192T
Old Meeting House	24T

Last winter was a mild one with only one plow operation and 23 sanding operations. We used 1,500 tons of sand and an equal amount of salt. Our first sanding was on December 4, 2006 with our last one occurring on March 23, 2007. Our only plowing operation occurred on January 22, 2007 which turned out to be a dusting to 1" on road surfaces.

I would like to thank all departments involved in snow and ice removal operations. You deserve a lot of praise for working and/or being on call for winter emergencies and keeping the town's roadways safe for our residents.

Respectfully submitted,

Edward C. Vickers
Manager of Operations

VEHICLE MAINTENANCE

The Vehicle Maintenance department has undergone many changes to accommodate more in-house service and repairs. In addition to maintenance of Highway Department vehicles and equipment, we also service the Water Department, Lands and Natural Resources, Transfer Station, Harbor Master, Fire Department, Building Inspector, Conservation and the Council on Aging. Having all of these departments requires proper equipment and knowledge to service a variety of vehicles and equipment, large and small.

Tony Adamo, Foreman, is an experienced Welder and Sheet Metal Fabricator who also has knowledge of repairs on trucks. By hiring Tony, the department was able to fabricate several items such as repairing containers for the Transfer Station by building new doors and replacing supports and walls. This saved the town thousands of dollars in purchases and repair work. Repairs that require welding on trucks and construction equipment are now completed in-house at a significant cost savings.

Keith Mason has over 18 years experience in automotive repair as well as heavy trucks and construction equipment. Keith is also knowledgeable about the steel fabrication trade. He has contributed significantly to the growth of the department.

The Town has also purchased new equipment to not only keep the department up-to-date with new technology, but also provide for money and time saving capabilities. Mobile truck lifts allow the technician to raise a heavy truck in the air anywhere in the shop allowing faster repair times. A scan tool for computer diagnostics on light and heavy trucks increases the quality of repair work. Other additions include new welding equipment, a tire machine / wheel balancer, and updated hydraulic fittings for making hydraulic lines. We are also keeping filters and other common replacement parts for the equipment in stock to save time as well.

Vehicle maintenance is committed to keeping the cost of repairs down to a minimum as well as turning around the time it takes equipment to get back into service. We would like to keep as many repairs in-house as possible. With the implementation of new technology and technicians dedicated to continuously educating themselves in this field, we should see a reduction in outside repairs for the next fiscal year. I am confident in the department's ability to deliver quality service, repairs and support its continued growth.

Respectfully submitted,

Edward C. Vickers
Manager of Operations
Department of Public Works

TRANSFER STATION



The Department of Public Works is continuing to work to increase our recycling efforts. The recycling of paper and cardboard by the residents is certainly paying off. In addition to the town saving money by not having to dispose of this trash, the town is now being paid by local paper mills for this valuable commodity. We are also able to recycle toner cartridges, cell phones, batteries, televisions, computer monitors and appliances free of charge this year. With metal prices at an all time high, we are not charged for hauling away of these items and still receive a good percentage of money back for the town.

Other new recycling items include clothing, shoes and linens. The town receives a fee of \$30 per ton for these items with \$20 per ton being distributed to the Interfaith Council of Churches in town.

We continue to pay \$90 per ton for disposal of construction debris; however, we have partnered with a new vendor that will haul away the debris free of charge.

I would like to thank our transfer station employees for their outstanding efforts: our foreman, George Cook, Russ Keirstead who hauls our trash to Semass, as well as Dave Elliott and Bruce Tuscher, our operators.

Along with the Transfer Station Advisory Board, the DPW Director and I will continue to work on improvements for the future at this Transfer Station.

I would also like to extend our sincerest appreciation to the residents of Duxbury for their recycling efforts.

Respectfully submitted,

Edward C. Vickers
Manager of Operations
Department of Public Works

CEMETERY



This past year has been an exciting but also fruitful year in terms of accomplishments in the Cemetery Department.

Our rules and regulations were revised in order for residents to have a clearer understanding of what is allowed and not allowed on cemetery grounds. Some have been unhappy with what is needed to be enforced, what is enforced is mainly due to safety issues or certain decorative items. Each family has a unique way of wanting to remember and memorialize their loved one although we do need to remember that a cemetery is for all and the way you memorialize may impact the family next to you. Rules and regulations are set forth from the Board of Cemetery Trustees and approved by the Selectmen. The Superintendents task is to make sure that these rules and regulations are followed.

A work in progress for many years was the expansion to the columbarium. A columbarium is a structure that contains niches for the permanent memorialization of cremated remains. We were able to access funding through the Sale of Burial Rights and use this fund to not only add niches but to encase the old and new structure in granite. Watertown Engineering in Whitman came in as the lowest bidder for this project and did a beautiful job of expanding and modifying the existing columbarium.

Our largest project is the cemetery expansion. Our cemetery is nearly to capacity, this expansion will yield close to 2700 additional graves; the section by the columbarium will be dedicated to cremation interments only. Tom Daley our DPW Director has been helping with this project, he has actually mapped it out on paper so that we can have a visual of what it will be. It seemed for part of the summer that we had the whole DPW Department working on the cemetery grounds. We have added drainage with help from the Highway Department. Ed Vickers led his crew to install drainage along the roadway of the new section. Peter Butkus and his crew helped to remove trees that were in the line of the soon to be roadways and Paul Anderson and his crew helped to update our water system by installing new pipes. I thank these fellow managers and the men who worked the cemetery grounds. This truly is teamwork at its best.

The Hathaway Fund provided monies to replace the fencing at Dingley Cemetery on West Street. The Garden Club of Duxbury once again donated small flowering bushes that are planted at the Memorial Garden. How wonderful to have these ladies helping to improve a section that at one time was so desolate and now brings such joy to families.

We've had extensive electrical work done to two of the crematory units and we were able to repair the inside of the units as well. Thankfully we were able to keep the operation running smoothly. We've added four funeral homes near the North Shore to our clientele list this past year.

Our crew has also changed within the past year. Charlie Yeaton left the department and Chip Locketti was promoted to the Leadman position. Antonio Fernandes, Jr. replaced Chip in his former position of Equipment Operator. We have also added Robert Ash and Emmett Sheehan to our Board of Cemetery Trustees.

This has been a busy year with all that was and is going on. I've gained great experience on cemetery expansion and the steps it takes to achieve this goal. I've learned a lot these past few years and can still say I love what I do.

I am grateful to those I work with Tonya, Paul, Tony C., Chip, Tony F. and Gail for their hard work and mostly for the integrity they bring to the job. Collectively it is a good group of people to work with. I'm also grateful to our Board of Trustees and especially thankful that we have men and women willing to volunteer to maintain the dignity of our cemetery grounds.

"Testimonies of devotion, pride and remembrance are carved in stone to pay warm tribute to accomplishments and to the life – not death – of a loved one."

Respectfully Submitted,

Patricia J. Pappas
Superintendent of Cemeteries and Crematory

WATER & SEWER DIVISION



Why is the management and operations of the Duxbury Water Department important? On a global level which is just as relevant locally consider this. Only 2.5% of the world's water is not salty, and of that, two thirds is trapped in icecaps and glaciers. Of the remaining water approximately 20% is either located in remote areas inconvenient to access or is received in the wrong place at the wrong time (monsoons and floods). This leaves less than 0.08% of all the water on the planet available for human use. It is estimated that 70% of this minute percentage is used for agriculture and an additional unknown percentage is used in industry (growing rapidly). Now for the shocker. In 2000 the World Water Council reported that over the next two decades the use of water by humans will increase by approximately 40%, and that 17% more water will be needed to grow food than is available. The Council concluded that "only rapid and imaginative institutional and technological innovation can avoid the crisis. The management and operations of the water and sewer in Duxbury may be more important than any of us realize and it is only with the tireless efforts of the field and office staff that I submit the following.

Distribution Foreman Doug Ficks continues to do an excellent job managing the daily operations. Doug has continued his efforts in organizing the water shop and training new employees. Radio read meters continue to be installed as part of our meter replacement program. This technology makes the meter reading process quicker allowing staff to focus on other high priority projects. Seven major main breaks and nine service leaks were repaired. Seven new water services were added to the existing infrastructure, six hydrants were replaced, and numerous others were repaired. A new domestic service line was installed at the Cemetery and a sewer lateral was replaced as part of the Wright Building renovation project. Mark outs of water main and services were too numerous to count due to gas main replacement and paving. All cross connection devices were tested (137 tests) in accordance with DEP regulations. In addition to the above, distribution operators performed routine maintenance of the system on a daily basis and responded to countless customer concerns.

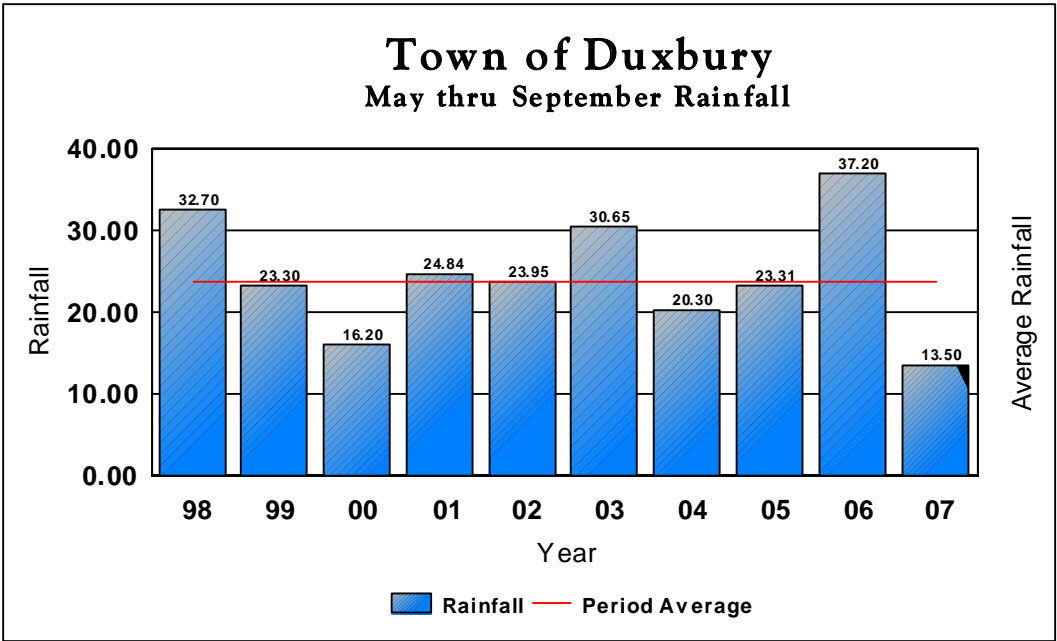
On the water treatment end of the department, Treatment Foreman Bob Crowley continues to focus on improving the efficiency and overall operations of the wells and greensand treatment plant. The Partridge Well and Depot Well were both removed and rehabbed as part of a continuing maintenance program. The Depot Well was put back in service for the first time in over ten years. Five fatigued chemical pumps were replaced and seven were refurbished making chemical injection more consistent. All of the backwash control valves were rebuilt at the Evergreen Greensand Plant improving the overall performance of the facility. The treatment staff continues to oversee the operations of the High School Wastewater Treatment Plant. Distribution and treatment staff worked together to perform much needed maintenance on reactor #1. The maintenance consisted of replacing the weir assembly: a dangerous and complicated task expedited safely and professionally and saving the town many thousands of dollars. The plant is more efficient and operating well within DEP parameters.

The Water Department distribution system map has been updated and now accurately represents water main size and location. The new map will be utilized to create a hydrant flushing program which is an imperative component in ensuring high quality drinking water. It will also be utilized as an asset management tool, prioritizing infrastructure replacement. Engineering for a new elevated storage tank, which will replace the existing Birch St Tank has been completed and the project awaits legislative approval before bids may be received. The new tank will increase domestic water pressure as well as fire flow availability in the north and west parts of town. The replacement of PCE water mains on Buckboard Road and Harvest Drive have been completed. These were the last two roads with a detectable level of tetrachloroethylene. Engineering for the Damon Wells (two new wells) has been completed and bid out: this project is anticipated to begin in the spring of 2008. I would like to thank the Water Department staff for their hard work over the past year. The field staff are some of the finest operators I have had the opportunity to work with and I look forward to the years to come. The Water Department suffered the devastating loss of long time employee Louise Hatfield. Louise was professional, hard working, kind and great fun to work with: she will be missed. Christine Smythe now runs the day to day office operations with the assistance of Ginny Golden. Together they handle countless calls, customer needs, billing and organization. I am grateful for their patience and strong work ethics. I would also like to thank the DPW Director, Town Manager, Water Advisory Board and the Board of Selectmen for their continued support.

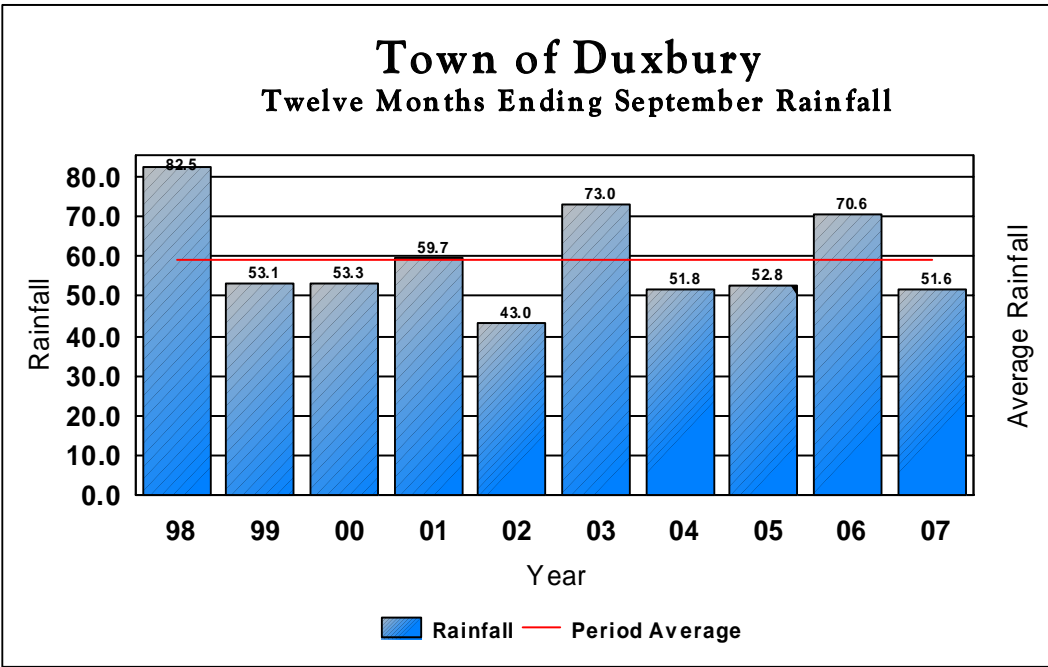
Respectfully Submitted,
Paul Anderson
Water & Sewer Superintendent

WATER ADVISORY BOARD

For the fiscal year ending June 30, 2007, Paul Anderson worked on various projects such as the new pressure zone which includes a new standpipe, upgraded pump motors needed for the additional pressure, a water main to the Evergreen Treatment Plant and altitude valves to allow for the movement of water from the higher pressure zone to the lower pressure zone; a new water main on Temple Street and the new water supplies at Damon One and Two wells. The standpipe design for the Birch Street site, although completed fairly quickly, was not placed out to bid because a land transfer has not yet been approved by the Massachusetts Legislature. Earlier, FY07 Town Meeting approved a land swap which will allow the current standpipe to remain in service until the new standpipe is completed. The water main on Temple Street, currently under construction, is expected to be completed in the fall of 2007. The specifications for the Damon wells were delayed as consultants were changed, but are currently completed and out for bid. Rainfall for the twelve months ending June 30, 2007 was not unusual, but was significantly under average for the summer growing months. As a result daily demand and peak day increased significantly, resulting in voluntary restrictions during the summer growing period as defined as May thru September. As shown in the chart below, the summer growing period was unusually wet for 2006 and unusually dry for 2007.



Despite this, twelve months rainfall ending September was only slightly below average, and exceeded 50 inches. We expect significant summer revenues billed this fall 2007. Below you can see the chart showing twelve months ending September, 2007, and note that the annual rainfall seems to be close to the average. This would suggest that pond and aquifer levels remained fairly stable. Winter rainfall largely ends up in ponds and the aquifer, while summer rainfall is largely taken up by vegetation and evaporation. Well withdrawal models assume that none of the summer rainfall is available to the wells.



We also must note that vinyl lined AC water mains have been replaced for a total to date of 59 streets representing 72,173 feet. Two vinyl lined AC water mains were replaced during the fiscal year of 2007. The remaining identified vinyl lined AC water main has never shown any levels of PCE during their lifetime although funds are still being set aside to allow for their replacement. We are hopeful that the ratepayer will be relieved of this obligation in the future.

Respectively Submitted

George D. Wadsworth, Chairman
Freeman Boynton, Jr., Clerk
Paul Keohan