

Appendix F

**Town of Wayland
Residential Gallons per Capita Day (RGPCD)
Public Water Supply Annual Statistical Reports
2004-2009**

	<u>2004</u>	<u>2005</u>	<u>2006</u>	<u>2007</u>	<u>2008</u>	<u>2009</u>
Total residential use (MGY)	511.	479.143	443.325	416.395	354.	358.
RGPCD	100.	95.1	87.17	81.88	70.3	71.3

MPAC: IMPLEMENTATION PLAN ASSESSMENT
Natural, Cultural, and Historic Resources

8/25/10

Data Collection Team (DCT) #4NCR

PART A: The following Master Plan sub-goals pertain to Natural, Historic, and Cultural Resources. Overall, is the Town closer to meeting these goals than it was in 2004? Please comment for each goal.

	Goal	Comment
1.	<p>Preserve and protect the Town's water supply. Identify and protect potential water sources for future generations.</p>	<p>The Wellhead Protection Committee (WPC), was formed by the Board of Water Commissioners in 2007, and focused on the quality and quantity of Wayland's water supply.</p> <p>The Town has commissioned new facilities at the Baldwin Wells using advanced filtration.</p> <p>Wayland's water use is still beyond the pumping limits set by the state, so addition limitations on water consumption and types of uses may need to be adopted.</p> <p>A new 'capital recovery surcharge' places the most burden on those conserving the most water, and should be re-evaluated.</p> <p>Work has completed to direct runoff from WHS parking areas from the Happy Hollow wells. The design of the new high schools will add additional buffer areas.</p> <p>"water loss" issues to control – about 20% wasted</p>
2.	<p>Preserve, protect and maintain natural areas in order to mitigate flooding problems, provide wildlife habitat and corridors, promote environmental education, provide opportunities for passive outdoor recreation and maintain scenic vistas an a sense of openness. Land Protection is best achieved through acquisition and coupled with the use of Commonwealth of Massachusetts approved Conservation Restrictions.</p>	<p>Some properties were preserved since 2004 totaling approximately 25 acres of open space. Pending acreage is not included in this total. Approximately 45 additional acres are pending.</p> <p>Preserved:</p> <p>Eg. Nike site of 13 acres – 10 went to open space</p> <ul style="list-style-type: none"> • Nike Site (89 Oxbow) 10 acres uplands open space

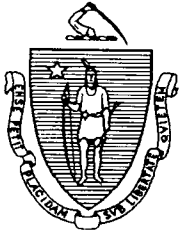
Appendix H

HAPPY HOLLOW WELLS SODIUM TESTING RESULTS (MG/L)

<u>Date</u>	<u>HH #1 (DEP #)</u>	<u>HH #2 (DEP #)</u>	<u>HH #1 & #2 (combined)</u>
28 Feb 94	23 (1003)	17.1 (1329)	
06 Apr 98	31 (1016)	27 (1342)	
21 Mar 01	34.5 (1030)	19.8 (1356)	
24 Mar 03	52 (1046)	27 (1372)	
20 Sep 04	47 (1065)	33 (1386)	
20 Sep 04	47 (1006)	33 (1399)	
10 Jul 07	52 (1088)	37 (1413)	
06 Apr 09	58 (1096)	44 (1421)	
04 May 09	53 (1097)	40 (1422)	
01 Jun 09	58 (1098)	40 (1423)	
06 Jul 09	48 (1099)	33 (1424)	
03 Aug 09	56 (1100)	41 (1425)	
Nov 2010	---	---	45

Appendix I

310 CMR 22.21(3)(b) Zone I. All suppliers of water shall acquire ownership or control of sufficient land around wells, infiltration galleries, springs and similar sources of ground water used as sources for drinking water to protect the water from contamination. This requirement shall generally be deemed to have been met if all land within the Zone I is under the ownership or control of the supplier of water. Current and future land uses within the Zone I shall be limited to those land uses directly related to the provision of the public water system or to other land uses which the public water system has demonstrated have no significant impact on water quality. The Department may require greater distances or permit lesser distances than the Zone I distances set forth at 310 CMR 22.02, if the Department deems such action necessary or sufficient to protect public health. No new underground storage tanks for petroleum products shall be located within Zone I.



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EXECUTIVE OFFICE OF ENERGY & ENVIRONMENTAL AFFAIRS
DEPARTMENT OF ENVIRONMENTAL PROTECTION
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Governor

TIMOTHY P. MURRAY
Lieutenant Governor

IAN A. BOWLES
Secretary

LAURIE BURT
Commissioner

Appendix J

Wellhead Protection Guidance **The Best Effort Requirement 310 CMR 22.21(1)**

What Is The Best Effort Requirement?

MA Drinking Water Regulations 310 CMR 22.00, require public water systems to protect Zone II recharge areas with municipal controls (bylaws, ordinances, health regulations) that meet MassDEP Wellhead Protection Regulations 310 CMR 22.21(2). However, when a public water system is not a part of the municipality in which their Zone II is located, it is not always easy for the public water supplier (pws) to obtain local protection. For these water systems, DEP provides an alternative wellhead protection compliance standard under the Best Effort Requirement 310 CMR 22.21(1).

Who Does The Best Effort Requirement Apply To?

The Best Effort Requirement applies to:

1. all non-municipal public water systems with a MassDEP approved Zone II; and
2. all municipal public water systems with a MassDEP approved Zone II located in (or extending into) another community.

The Best Effort Requirement 310 CMR 22.21(1):

Non-Municipal Systems: 310 CMR 22.21(1)(d) No public water supply well or well-field designed to pump 100,000 gallons per day or more shall be placed online unless the cities and towns in which any part of the Zone II of the proposed well or well-field is located have wellhead protection zoning or non-zoning controls in effect that prohibit siting within the Zone II the land uses set forth in 310 CMR 22.21(2)(a) and 310 CMR 22.21(2)(b) unless designed in accordance with the performance standards specified therein. If the public water system is owned or controlled by an entity other than a municipality, the proponent must demonstrate to the Department's satisfaction

that it has used its best efforts to have all cities and towns in which the Zone II is located establish such zoning or non-zoning controls.

Municipal Systems: 310 CMR 22.21(1)(e) No public water supply well or well-field designed to pump 100,000 gallons per day or more shall be placed online unless the cities and towns in which any part of the Zone II of the proposed well or well-field is located have wellhead protection zoning or non-zoning controls in effect that prohibit siting within the Zone II the land uses set forth in 310 CMR 22.21(2)(a) and 310 CMR 22.21(2)(b) unless designed in accordance with the performance standards specified therein. If the Zone II of a municipal public water system extends into another municipality, the pws must also demonstrate to the Department's satisfaction that it has used its best efforts to have all cities and towns into which the Zone II extends establish such zoning or non-zoning controls within the Zone II.

How Does A Public Water Supplier Comply With The Best Effort Requirement?

To achieve compliance with the Best Effort Requirement; a pws must demonstrate they have used their *best efforts* in encouraging the community to protect the Zone II with local controls that meet MassDEP Wellhead Protection Regulations 310 CMR 22.21(2). At a *minimum*, the pws must :

1. Request local officials (i.e. planning board, board of health, board of selectmen) to protect the approved Zone II with local controls that meet the language in 310 CMR 22.21(2)(a)(1) through (b)(7); and
2. Provide local officials with a copy of the MassDEP-approved Zone II delineation and MA Wellhead Protection Regulations 310 CMR 22.21(2); and
3. Provide MassDEP with documentation that steps 1 and 2 above have been accomplished. Documentation may include a copy of the letter to the town requesting protection of the Zone II or a copy of a letter (or meeting minutes) describing discussions with local officials to protect the Zone II.

Once the above documentation is submitted, MassDEP will provide the PWS with a *Letter of Compliance with MassDEP Best Effort Requirement*.

What If The Community Protects The Zone II After The Public Water Supplier has Submitted Their Best Effort Documentation To DEP?

Community officials need time to review the wellhead protection information and to amend local controls. The adoption or amendment of bylaws/ordinances can often take a year or more. In many instances, a pws will have submitted their *best effort* documentation to DEP while the community is actively pursuing the requested protection.

If a community revises their protection measures *after* the pws has submitted Best Effort documentation; the pws should send DEP a copy of the community adopted/amended protection controls. DEP will provide the pws with a *Letter of Compliance with DEP Wellhead Protection Regulations*.

Once a community has protected a Zone II with local controls that meet all of DEP Wellhead Protection Regulations; the pws is no longer subject to meeting the Best Effort Requirement for that Zone II.

What If The Community Already Protects the Zone II?

If a community already protects the Zone II with controls meeting DEP Wellhead Protection Regulations 310 CMR 22.21(2); the pws should submit this documentation (bylaws, health regs, protection maps etc) to DEP. DEP will provide the pws with a *Letter of Compliance with DEP Wellhead Protection Regulations*.

If the community's protection controls meet only some of DEP's Wellhead Protection Regulations, OR, if the community's designated protection area (such as a protection district zoning map) does not completely cover the Zone II, then the pws must satisfy the Best Effort Requirement.

What If The Community Does Not Respond To The Public Water Supplier's Request To Protect The Zone II?

The pws is only subject to meeting the Best Effort Requirement. Once the pws has submitted the required *best effort* documentation to DEP; they have satisfied the Best Effort Requirement. However, if the community does not pursue the requested wellhead protection; the pws will at some time, be subject to meeting the Best Effort Requirement again. The following activities trigger compliance with the Best Effort Requirement:

- new source approval;
- monitoring waiver application;
- DEP water withdrawal permit reviews or amendments;
- Zone II re-delineations (for pws previously subject to BE compliance); and
- Sanitary Survey stipulations.

The goal of the Best Effort Requirement is to protect the quality of public drinking water supplies. The repeat *best effort* requirement provides public water suppliers with the opportunity to continue pursuing wellhead protection for their water supplies.

For additional information about the Best Effort Requirement, or if you need assistance meeting compliance, contact DEP's Drinking Water Program. 617-292-5700.

Appendix K

The former Watertown Dairy, accessed off Moore Road, was comprised of approximately 267 acres of open fields, pasture and cropland, wetlands and wooded areas. To the east and south were single family homes; to the north and west are the Sudbury River and the Sedge Meadows, respectively. The developed portion of the site, which was demolished in 1989, included 4 residences, 5 barns, silos and storage areas associated with the former dairy. At one time the Dairy, also known as Shick Farm, was one of the largest dairy farms in eastern Massachusetts.

As commonly practiced on many Massachusetts farms, the owner of the Dairy operated an on-site disposal area where he disposed of farm and household waste. However, during a period of time from the late 1960's to the mid 1970's, commercial waste was transported to and disposed of at the site. During a pre-acquisition environmental site assessment by Sudbury Valley Trustees (SVT) in June 1986, the dump area was located approximately 1400 feet north of the Baldwin Wells and some of the responsible parties were identified.

Documentation commingled with waste identified American Biltrite Inc. (ABI), and Harvard Medical Area laboratories (HMA) as generators of waste rubber products and medical waste, respectively. Other medical waste was later traced to the New England Baptist Hospital (NEBH).

In 1987 HMA developed a MassDEP approved work plan for the removal of its medical waste from the site. Remediation was completed later than year.

In 1988 Goldberg-Zoino & Associates (GZA) conducted an environmental study for HMA to evaluate soil and groundwater conditions at the site and investigate the hydraulic connection between the site and the Baldwin Wells. GZA but did not find any indication that HMA wastes had adversely affected the environment at the site. Very low levels of DDT in soils most probably were related to pesticide use at Watertown Dairy. The one compound found in groundwater, bis(2-ethylhexyl)phthalate, not generally with medical laboratory waste, was found in concentrations below federal water quality standards. Metals in soils and groundwater were within ranges that occur naturally. Radioactivity measured in groundwater was at background levels and caused by emanations of naturally occurring radio-isotopes. No man-made radio-isotopes were detected. The groundwater samples did not violate state drinking water standards.

GZA calculated that groundwater from the HMA disposal area contributed approximately 0.01% of the annual water withdrawals for the Baldwin Wells. GZA further estimated that it would take water recharging the aquifer at the HMA disposal area between 1.5 to 6 years to reach the supply wells.

GZA concluded that, because of the small contribution of groundwater from the site to the wellfield and the quality of the groundwater, the quality of water at the wells would not be significantly affected by the HMA wastes.

SEA Consultants developed and implemented a MassDEP approved remedial action plan for ABI in 1988-89. An approved two year groundwater monitoring program was also implemented. SEA reported that the contaminants of concern, specifically phthalate esters, volatile organic compounds, and dissolved lead and nickel, were not detected in the groundwater. Although petroleum hydrocarbons were detected during early sampling, they were not detected later.

In 1989 a cleanup of NEBH medical waste was performed in accordance with a DEP approved work plan prepared by McPhail Associates. Based upon the type of wastes, the potential hazards associated with disposal of any infectious wastes, and the length of time required for groundwater to reach the Baldwin Wells, it was concluded in 1990 that neither the soil nor groundwater was adversely impacted by NEBH's waste generation.

Appendix L

SUMMARY OF RAYTHEON SITE ISSUES IN BALDWIN ZONE II

The former Raytheon facility is an approximately 83-acre property located at 430 Boston Post Road (Route 20) in Wayland, adjacent to the Sudbury River and the Great Meadows National Wildlife Refuge. There are about 32 acres of either wetlands or wetland buffer zones, 41 undeveloped acres of grass and woodlands, and a large office/research lab complex. The property is in the Aquifer Protection District and the Zone II for drinking water wells at Baldwin.

The Raytheon Company leased the site from 1955 to 1996. Facility operations included electronic testing and chemical process research. Various lab processes included photographic development, printed circuit board development, machining and welding, electronic testing, spray painting and hydraulic testing. The categories of chemicals utilized and waste generated included volatile organic compounds, metals, heating and lubrication oils (including PCBs), and water treatment and custodial chemicals.

Documented releases of hazardous materials date back to a fuel oil leak in 1975; insulating oil in 1989; butyl-cellosolve in 1990; fuel oil stained soil during UST removal in 1992; various metals, VOCs, PAHs and PCBs in soils in abandoned dry wells in 1995; fuel oil at a different UST; VOCs in groundwater in southern area; PAHs, PCBs, metals and oils in stressed wetland vegetation near the river in 2000; MtBE, arsenic & CVOCs found in groundwater in 2002; chromium found in groundwater in 2003; and VOCs in the northern area in 2004.

Raytheon's consultants at ERM have conducted extensive 21E site investigations for soils and groundwater. It became a PIP (Public Involvement Plan) site in June 2000, and DEP issued a Tier IB permit with conditions in October 2000. CMG Environmental, Inc. was hired by the Town in 2002 to provide independent LSP services during the cleanup. A deed restriction placed on the property in 1997 can only be modified by Raytheon; no human health or public safety risks are present on the property.

In November 2001, DEP began to evaluate groundwater within the Baldwin wellfield because of low-level (below MCP reportable concentrations) sporadic detection of VOCs since 1997. DEP installed 28 wellpoints and collected 70 groundwater samples on town-owned land between Raytheon and Baldwin. In 2002 DEP installed seven wellpoints and collected 20 groundwater samples at Baldwin. Raytheon VOCs extend 1000 ft north onto town owned land but are not likely the source of very low concentrations in the Baldwin Zone I.

In 2009 Raytheon installed sentinel wells on Cow Common in an agreement with the Conservation Commission. Five wells at varying depths between the Site and Baldwin will enable the Town to continue monitoring for future changes in low-level VOCs in the Baldwin Zone II. To date, samples are consistent with DEP's findings a decade ago.

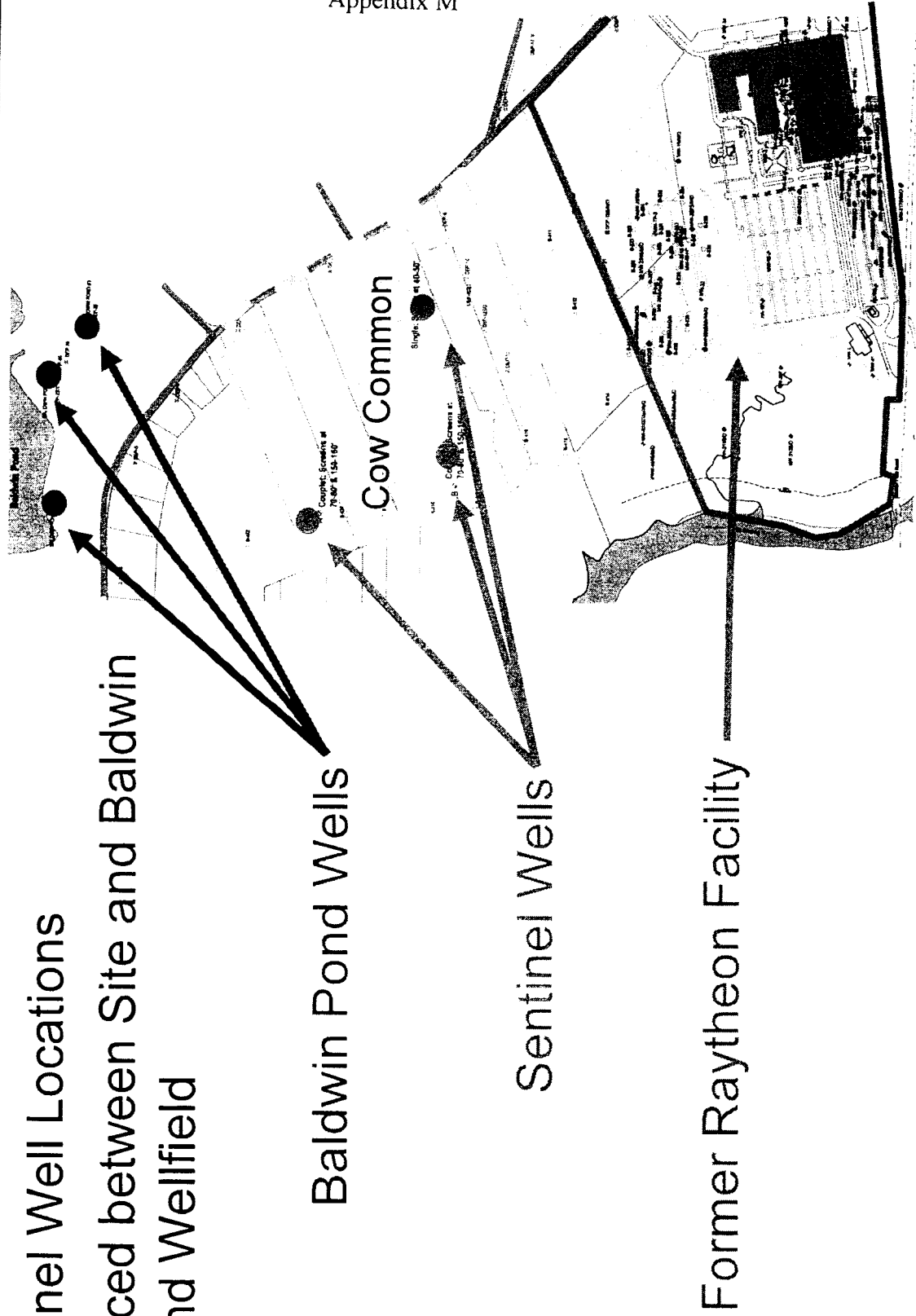
As progress is made in each area, the cleanup transitions into ROS (Remedy Operating Status) and eventually to RAO. Raytheon began decommissioning monitoring wells in 2010 to accommodate anticipated redevelopment of the property into a mixed-use retail/commercial/residential project. Replacement wells will be installed, coordinated with construction activities, to ensure the integrity of MCP required long-term groundwater monitoring.

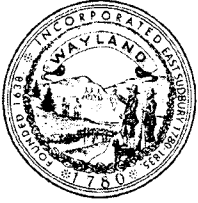
Documents associated with the Raytheon cleanup project are posted on the following extranet website: www.ermne.com; username=raytheon; password=wayland (all lower case). Hard copies are located at the Board of Health and at the Wayland Public Library repositories.

SEP – Sentinel Wells

Sentinel Well Locations

- Placed between Site and Baldwin Pond Wellfield





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Appendix N

PRESS RELEASE: Danforth Farms Settlement

For Immediate Release: January 19, 2005
For Further Information Please Contact: Jeff Ritter at (508) 358-3620

January 19, 2005 - Town of Wayland At its meeting last evening, the Wayland Board of Selectmen ("Selectmen") signed a settlement agreement ("Agreement") with National Development ("National") with regard to National's proposed development of 665 housing units in Framingham on a site that borders the Town of Wayland ("Town" or "Wayland"). The settlement effectively ends the Town's legal appeal of the special permit issued by Framingham's Planning Board on April 17, 2003 ("Special Permit").

In its appeal, the Town cited concerns over the proposed project's impact on the Town's traffic volume, pedestrian safety, drinking water supply, abutting conservation areas and increased public safety response responsibilities....."The Board of Selectmen, along with many Wayland residents, were extremely concerned, and rightly so, about this planned development and the impact to both the Town of Wayland and our residents", stated Betsy Connolly, Chair of the Selectmen.....Also, concerns regarding the Town's water supply, given the environmental history of the property...needed to be addressed.".....

A release of hazardous materials occurred on the New England Sand & Gravel property in 1986 while the U. S. Air Force ("USAF") was testing tarmac repair options. Since that time, the USAF and its LSP have been monitoring the effect of this release on the groundwater at the site of the proposed project. To ensure that this existing environmental condition will not affect the Town's drinking water supply, National has agreed to grant the Town an easement to install and maintain a monitoring well on its property, north of the Sudbury River, to test for chlorinated volatile organic compounds, the substance involved in the USAF spill. The easement will terminate when National's LSP and the Town's LSP jointly advise the Town and National that existing data support a determination that the environmental conditions at the property do not present any material risk to the quality of the Town's public water supply. During the term of the easement, National has also agreed to refrain from installing irrigation wells in certain areas of the site. In addition, the Town may, at its discretion, use a portion of the \$1.45 million to fund additional environmental testing on Town-owned land in the vicinity of the Birch Road wells should such wells be re-activated by the Town of Framingham.....

The total amount of funding to be provided by National pursuant to the Agreement is \$1,450,000. National has agreed to allow the Town, through the Selectmen, to exercise control over these funds, subject to certain conditions contained in the Agreement.