

Appendix B TC Group's 65 Randomly Selected DPH Small Community Water System (CWS) Inspection Report Review

<u>TC Group's CWS Assigned Reference Number</u>	<u>Inspection Year</u>	<u>Housekeeping</u>	<u>Operations & Maintenance</u>	<u>Improvements</u>	<u>System Condition *</u>	<u>Additional Source of Supply</u>	<u>Inadequate Sanitary Separation, Watertight Seals, Vent Screening, etc. and Wells Subject to Surface Runoff</u>	<u>Housekeeping</u>	<u>Operation & Maintenance</u>
1	2008	The pump house should be secured against rodent intrusion and also materials not related to the operation of the water system should not be stored in the pump house. Also, mulch, leaves, trees and other yard waste should not be disposed of in the 150 foot protective radius of the well.	A water system distribution sampling site plan is overdue to DPH.	Repair well cap to ensure a watertight seal. Extend sump pump drain line a distance of at least 25 feet away from well. Since only maintain one well, should explore the option of drilling a second well.	2	1	1	1	1
2	2010		The area surrounding the production well should be maintained in a sanitary condition to protect the source of supply from potential contamination. All finished water storage tanks, basins, and clear wells are required to be inspected for structural and sanitary integrity at least every 10 years. The distribution system must be flushed annually to maintain the water main free from excessive accumulation of sediments, organic growths, products of corrosion and erosion, and other extraneous matter. Consider flushing the atmospheric storage tank and hydropneumatic tank on regular basis to minimize any build up of sediments in the bottom of the tank that may cause bacterial growth and lead to water quality problems. All valves (shut-off, ball, etc.) installed should be exercised on an annual basis to ensure that they are in operating condition. <u>The condition of the system components (booster pumps, storage tanks and associated piping) appears to be deteriorating.</u> It is recommended that these components be properly maintained to protect the integrity of the water system.	<u>Since the system maintains only one production well, a plan of action should be developed and implemented to ensure an adequate supply of water to consumers should the only well fail.</u>	2	1			1
3	2008		The system did not appear to be appropriately maintained. An apparently viable booster station was no longer being used; well historic non-compliance issues relative to separating distance to a stream and proper arrangement of an overflow pipe have not been remedied; and the atmospheric storage tank shows no signs of maintenance and is overgrown by trees which roots may impact the integrity and access of tank components.	<u>Construction of a second well or interconnection with another Public Water System is recommended.</u>	2	1			1

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4	2013		The distribution system must be flushed annually to maintain the water main free from excessive accumulation of sediments, organic growths, products of corrosion and erosion, and other extraneous matter. The distribution system sampling site plan map should be updated to identify the make, model and location of the bladder tanks in each apartment unit, the point of entry to the distribution system, and the location of raw water sampling tap(when installed).	The well discharge piping is not equipped with a water meter to allow for weekly recording of totalizing and instantaneous flows. The well pump withdrawal rate is unknown; therefore compliance with the required separation to the 4 inch cast iron sewer pipe, which extends from apartment building# 2 within 60 feet of the sanitary radius of the well, cannot be determined. <u>DPH recommends the development of an additional well and installation of atmospheric storage with associated booster pumps.</u> A second well will provide a redundant source of supply and atmospheric storage will provide for at least a day' s supply in the event both wells are out of service. Atmospheric storage also allows for the delivery of bulk water to the water system.	3	1	1		1
5	2013		Need to conduct an annual flushing program.	A meter is not provided on the well discharge piping to allow for the collection of weekly meter readings of instantaneous and totalizing flows. <u>DPH recommends development of an additional well. If move forward with a second well, an atmospheric storage tank with associated booster pumps should be installed.</u> A second well will provide a redundant source of supply and an atmospheric storage tank will provide for at least a day' s supply in the event both wells are out of service. Atmospheric storage also allows for the delivery of bulk water to the water system. <u>Owner requested information on procedures to be taken over by another water company.</u>	2	1			1
6	2010	It is recommended that the area in front of the discharge point of the vault drain pipe be kept clear to allow adequate drainage. The vault sump pit should be kept clean to maintain the automatic sump pump/pit in optimal operating condition.	An annual distribution system flushing program needs to be conducted to maintain the distribution system free from excessive accumulation of sediment, organic growths, products of corrosion and erosion, and other extraneous matter. Essential water supply valves shall be maintained in operating condition.	The subsurface sewage disposal system of Lot No. 25 is located approximately 71 feet from the well. If there are documented acute total coliform violations, or other evidence of an elevated risk of microbial contamination, corrective action will be required. Corrective action in this situation will require replacement of the well or relocation of all components of the subsurface sewage disposal system to comply with the minimum separating distance requirement from the well. The vault drain pipe and joints shall be watertight to a distance of twenty-five feet from the vault. Any drain to the ground surface shall be screened to prevent entrance of animals and insects. Although there have been no known water outages experienced, it is strongly recommended that another source of supply be developed. <u>Alternately, an interconnect with a neighboring system, which has excess capacity could be pursued.</u> It is recommended that an emergency generator to provide electricity during power outages be obtained.	2	1	1	1	1

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7	2012		Need to develop an up-to-date map and submit a copy to the DPH. In addition, need to develop and implement a flushing program and a valve exercising program.	There shall not be any piping bypass around a pressure filter between untreated and treated water. However, there was a bypass with a closed valve around the WRT filters (for Uranium removal). Installation of an on-site generator or at least a pigtail for the connection of a portable generator is recommended. Consideration should be given to constructing a second well or an emergency interconnection with the recently installed water main on Route 25.	2	1			1
8	2013		Need to record the total usage and instantaneous flow rate for both wells on a weekly basis. Since the previous sanitary survey in 2009, the treatment chemicals have been switched from potassium carbonate to sodium carbonate. It must be verified that the treatment chemicals are certified to NSF Standard 60. An annual flushing program for the distribution system needs to be implemented.	<u>Recommend development of additional sources of supply and/or add additional storage to meet the peak hour demand.</u>	2	1			1
9	2013		Weekly water usage meter readings from the source of supply must be recorded for instantaneous and totalizing flow.	DPH recommends additional storage or additional sources of supply as a proactive way to avoid any water shortages. <u>It is highly recommended that an effort be made to try and obtain service from a viable community Public Water System and abandon the current well system.</u>	2	1			1
10	2012		An annual flushing program must be developed and implemented. Source water instantaneous and totalizing flow must be recorded on a weekly basis.	<u>The well, which was originally developed in 1960, has been classified as non-conforming but is grandfathered from having to comply with 19-13-B51 regulations, therefore, no formal enforcement of corrective actions will be pursued at this time.</u> The risk of contamination remains however, and all efforts should be taken to avoid such contamination. The well may be brought into compliance by installing a flow restrictor at less than 10 gpm, provided that the system can continue to meet demands at the reduced flow rate. Though the system would be expected to be able to meet average daily demands at the reduced flow rate, it would probably not meet peak hourly demands without increased storage. <u>Another possible solution is to abandon the public water system and become a customer of a neighboring water system with excess capacity.</u>	2		1		1

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11	2013		Weekly water usage meter readings from each source of supply must be recorded for instantaneous and totalizing flow. It was reported during the inspection that meter readings are not recorded on any regular basis. Where the water is chlorinated, at least daily tests shall be made for residual chlorine. The atmospheric storage tank must be inspected for sanitary conditions and structural integrity at least once every 10 years. In response to the 2010 sanitary survey report, it was stated that the atmospheric storage tank would be inspected by a contractor by the end of 2011. An annual distribution flushing program should be implemented.	All openings (vent, drain, etc.) on storage tank need to be screened. The outflow of the pump and well house drain must discharge to daylight at least 25 feet away from the wells and must be screened with a 24-mesh screen. This violation was noted on the previous sanitary survey report dated September 7, 2010 and has since not been corrected. This is a priority violation and needs to be corrected. <u><i>The overall condition of the drinking water system and its components is poor and reflects an aging system in need of a greater investment in maintenance and component replacement.</i></u> The atmospheric and hydropneumatic storage tanks are heavily corroded and planning should be initiated for the end of the useful life of these tanks. Additionally, information concerning the integrity of their interior and buried surfaces has not been made available. It is additionally concerning that all of the violations noted in this report were also documented in the previous sanitary survey report dated September 7, 2010 and were not corrected. <u><i>It is highly recommended pursuing the transfer of ownership of the system to a public water utility, which has the financial, technical, and managerial capacity to operate a public drinking water system.</i></u> Alternatively, if ownership of this system is to be retained then a financial plan should be made to provide significant upgrades to the system. <u><i>Please note that pursuant to Connecticut General Statutes Section 16-46(a) a request can be made to have the Public Utility Regulatory Authority and Department of Public Health order the acquisition of the small water system by the most suitable public or private entity.</i></u>	3		1		1
12	2012		The chemicals added into the potable water must be certified to ANSI/ NSF Standard 60. Need to implement an annual flushing program. Weekly water usage meter readings from each source of supply must be recorded for instantaneous and totalizing flow.	The depressed area around well 2 must be graded with clean fill to direct water away. <u><i>Must provide additional water storage or additional sources of supply to account for the difference between peak hour demand and water available for peak hour demand.</i></u>	2	1	1		1
13	2010	The ground surface in the area of the in-ground steel atmospheric storage tank contains some brush and vegetation. It is recommended that the area be cleared in order to prevent roots from infiltrating the atmospheric storage tank which may result in water contamination.		It is recommended that the loose bolt on the well cap of Well No. 2 be replaced. It is also recommended that watertight gaskets be replaced to permanently seal the two openings in the split sealed cap, beneath the vertical turbine pump of Well No. 1, that were sealed watertight with silicon caulk.	2		1	1	
14	2010		Weekly water usage meter readings must be recorded for instantaneous and totalizing flow. A annual main flushing program must be implemented. All essential vales must be maintained in operating condition.	The water softener unit back wash line is directly connected to the sewer and must have an air cap. The well cap must be replaced with a certified watertight well cap. The floor opening for the well's electrical conduit shielding wires for submersible pump must be watertight. It is recommended that a 24-mesh screen be placed on the brine tank overflow and that the opening around the brine tank feed line be sealed watertight.	2		1		1

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15	2010		Atmospheric tanks are required to be inspected every ten years. Need to verify that the chlorine, calcite and softener chemicals currently in use at this supply are NSF-listed. Need to take daily residual readings to determine if chlorination sufficient.	Well# 1's separation from a sanitary sewer line and surface water may not be sufficient. It is recommended that a conventional liquid chlorination system which is paced to flow be installed.	2		1		1
16	2010			It is recommended that the opening through the vault wall, containing system' s distribution pipe, be sealed watertight. It is also recommended that the interior seal on the vaults metal cover be replaced. <u>It is strongly recommended that another source of supply be developed.</u>	2	1	1		
17	2012			There were no regulatory violations at the time of survey.	1				
18	2011		Weekly readings of the instantaneous flow rate and total quantity of water delivered to the system must be collected/recorded. All essential water supply valves must be maintained in operating condition. Association considers Well# 3 as an active, emergency source of supply available during power outage situations since it is wired for a portable generator. However, Well# 3 has no treatment and is not routinely run nor has its water quality been tested. If Well# 3 is to be used as an active source of supply, it should be run routinely and monitored in accordance with the water quality monitoring plan. It is recommended that the Homeowners Association take actions to update and/or create an emergency response plan to include certified operator and water system management responsibilities, outreach and communications with consumers and town officials alike.	Well# 1 artesian overflow line must be screened with No. 24 mesh or finer to adequately protect the water. It was noted at the time of the sanitary survey, that there was a large amount of groundwater infiltration into the well pit/pump house vault. The sump pumps did not shut off for the duration of the survey. Although there are dual sump pumps installed for redundancy, it is recommended that additional precautions such as a high water alarm or daily inspection during wet periods should be instituted to protect the water system components housed within. Alternatively, additional work to the pump house vault could be conducted to create a more watertight condition.	2		1		1
19	2013		Atmospheric tanks are required to be inspected every ten years. Weekly water usage meter readings must be recorded for instantaneous and totalizing flow.	All three of the dug wells are not watertight to a depth of> 10 ft below ground surface and need to be regouted. The tank overflow pipe must be screened with a No. 24 mesh or finer. Additionally, the pipe should be protected so that it is not susceptible to routine damage from lawnmowers, etc. A hose bib vacuum breaker must be installed on the make-up water line in the pump house. Wells with a well pump withdrawal rate of between 10 and 50 gpm must not be located within 150 feet of any component of a septic system or other source of pollution. The wells that are throttled to pump less than 10 gpm using valves on the well discharge lines to comply with separation distance requirements must have a permanent flow restrictor or smaller sized well pump installed to insure that the wells are not pumped more than 10 gpm.	2				1

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20	2013	The area surrounding the production well and vault where the booster pumps and well-x-trol tanks are located should be maintained in a sanitary condition to protect the system from potential contamination. The vault cover should be kept locked to protect the system from vandalism.	Need to designate a certified operator as the chief operator for the system. Tank needs to be inspected every ten years. Need to implement an annual main flushing program. Consider cleaning the atmospheric storage tank and well-x-trol tanks on a regular basis to minimize any buildup of sediments in the bottom of the tanks that may cause bacterial growth and lead to water quality problems.	Need to install a production meter and record needed weekly readings. Tank overflow needs to be replaced with the correct size pipe and screened. <u>It is strongly recommended that a second well be developed to serve as a backup source of supply should the existing well fail.</u> The discharge pipe of the well should be provided with a sample tap (prior to atmospheric storage tank) to allow collection of well sample pursuant to the water monitoring requirement of the Ground Water Rule. Consider installing an emergency generator with sufficient capacity to operate the facility should the street power supply be interrupted.	2	1	1	1	1
21	2010		Weekly water usage meter readings must be recorded for instantaneous and totalizing flow.	Except for drilling a second well and adding storage the violations from the 2007 sanitary survey were addressed. <u>If water quantity issues develop it may be necessary to add storage or develop a second source of supply.</u>	2				1
22	2011		An annual main flushing program should be implemented. Storage tanks must be inspected every ten years.	The electrical grounding bolt for each well should be inspected to ensure that it is connected watertight to the well casing. If the bolt is found not connected watertight, it must be properly repaired to prevent the well from contamination.	2			1	1
23	2010		Weekly water usage meter readings must be recorded for instantaneous and totalizing flow.	Well No. 1 is located approximately 43 feet from a catch basin which is part of the storm drainage system of the nursing home site. If there are documented acute total coliform violations, or other evidence of an elevated risk of surface water contamination, corrective action will be required or formal enforcement action may be pursued. The well pit (vault) drain connected directly to the catch basin should be capped both in the sump pit and at its entrance to the catch basin. The opening around the drain, in the side of the sump pit, should be sealed watertight. An automatic sump pump should be installed in the well pit(vault) sump pit. The sump pump discharge pipe shall be drained onto the surface of the ground. The well pump electrical service conduit, of Well No. 1, was connected to an electric box with an opening that needs to have a watertight seal. Well No. 2 needs to be equipped with a screened air vent.	2			1	1

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24	2011		Weekly water usage meter readings must be recorded for instantaneous and totalizing flow. An annual main flushing program should be implemented.	<u><i>DPH strongly recommends that a centralized water softener treatment system be installed for the removal of hardness and iron in the pump house prior to the hydropneumatic storage tank to provide the residents with treated water instead of the individual water softener treatment unit in each house.</i></u> With the centralized treatment system, the water quality delivered to each house will be consistent and the maintenance and operation costs of the treatment system will be reduced from seventeen to one. The well casing is corroded with some scaling and pitting due to the moisture and condensation in the vault. It is strongly recommended that a dehumidifier and additional venting system be installed to improve the damp condition in the pump house to prevent the well and appurtenances from further deterioration. The hydropneumatic storage tank should be flushed frequently to remove accumulated sediments. The sight tube on the hydropneumatic storage tank should be replaced and kept clean. An emergency generator is recommended to be installed to provide power to the water system in the event of a power failure.	2				1
25	2011		System personnel contact info needs to be provided to DPH. Essential valves must be maintained in operating condition.	The overflow screen on the 110,000-gallon atmospheric storage needs to be replaced. The test well adjacent to the Gravel Packed Well is capped with a non-watertight well cap, which needs to be corrected to prevent contamination of the underground aquifer, which may be shared with Gravel Packed Well. It is strongly recommended that the skim coat that delaminated from the 110,000-gallon concrete tank wall be restored and that the silt and sediment in both concrete tanks be removed, if not done so.	2			1	1
26	2010		Considering that Well # 2 is located in an open area which is visible to the public, protection of the sole source of supply from vandalism should be provided. The area in the basement where tanks and treatment system are located should be maintained in sanitary condition to protect the water from potential contamination. All valves (shut-off, ball, etc.) installed should be exercised on an annual basis to ensure that they are in operating condition.	DPH records show that the system has an inactive well (Well # 1). If Well # 1 is intended to serve as a backup source of supply, the well water should be tested to ensure that its quality is in conformance with the State Drinking Water Standards set in Section 19- 13-B102(e) of the RCSA prior to activating the well for public use. If Well # 1 is no longer feasible to place back into active use, it should be disconnected from the system and properly abandoned. <u><i>Realizing that the system serves vital facilities (i.e. commercial & industrial establishments, etc.), a reliable backup source of supply should be developed and maintained.</i></u> Additionally, adequate storage and booster pump capacity should be provided to meet the average daily demand and peak hour demand of the system, respectively.	2	1			1

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27	2012		Notified that tank will need to be inspected every ten years. Representative weekly readings of instantaneous flow rate and total quantity of water delivered over the previous week shall be taken, recorded and retained for reference.	<u>The water system was built in 2008.</u> Tank vent and overflow need to be screened. Annual cross connection inspections and backflow prevention device testing is performed for the fire protection system. Due to the recent acute water quality violation, a cross connection inspection for the plumbing of both buildings should be performed. At the time of the survey the inside of the brine tanks appeared to be dirty. The tanks should be cleaned and the sodium chloride should be replaced. When the system is disinfected, the entire system should be flushed with chlorinated water and the filters should be backwashed with chlorinated water. Because of the size of the atmospheric tank, the tank should be disinfected with additional chlorine. <u>Since August 2011, there have been three total coliform MCL violations. In addition, a special sample collected after the disinfection following the June MCL violation returned with E. coli.</u> It is strongly recommended that a camera inspection be performed in Well# 1 to confirm the structural and sanitary integrity. If no cause of contamination can be identified, then a 4- log chlorination treatment system should be considered.	3		1		1
28	2013		Storage tanks must be inspected every ten years. Weekly water usage meter readings must be recorded for instantaneous and totalizing flow. All essential vales must be maintained in operating condition.		2				1
29	2010	The access hatches of the pits should be kept locked to protect the system components from vandalism.	All valves (shut-off, isolation, etc.) installed should be exercised on an annual basis to ensure that they are in operating condition. An annual main flushing program should be implemented.	At the time of the inspection, the meter pit had standing floodwater on the floor. Consider installing proper floor drain or sump pump to prevent the pit from flooding. Also, installation of adequate screened air vent pipe in the meter pit should be considered to maintain air circulation inside the pit and prevent potential build up of gases and fumes that may cause damage to system components and pose health risk. Installation of sample taps in the water supply pipeline should be considered to allow access of sample collection.	2		1	1	1
30	2013		Storage tanks must be inspected every ten years. An annual main flushing program should be implemented. All essential vales must be maintained in operating condition.	Well# 2 and Well# 6 had loose bolts on the well cap, the well caps were still secure. All bolts should be tightened to ensure that the well cap continues to form a watertight connection with the well casing. The casing on well# 1 was corroded, especially around the area where the casing comes into contact with the soil. The structural integrity of the casing is not compromised. Painting the exterior of the casing will protect it from further corrosion.	2		1		1
31	2013		Some PH recorded readings indicated levels slightly less than 7. PH levels need to be kept above 7. Tanks are required to be inspected every ten years.		2				1

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32	2011	The entrance door to the pump room should be kept locked at all times to protect the system from vandalism.	The casing of Well 2 (located along the driveway to the pump room) was heavily corroded. The well casing including the system components (i.e. pipes, tanks, treatment components, etc.) should be properly maintained to protect from deterioration. Consider flushing the atmospheric storage tank and hydropneumatic tank on regular basis to minimize any build up of sediments in the bottom of the tanks that may cause bacterial growth and lead to water quality problems. All valves (shut-off, ball, etc.) installed should be exercised on an annual basis to ensure that they are in operating condition. The area surrounding the production wells should be maintained in a sanitary condition to protect the sources of supply from potential contamination.		2			1	1
33	2010	The entrance door to the pump house should be kept locked at all times to protect the system from vandalism.	It was reported during the sanitary survey that the system has three inactive wells. The system must be resurveyed for cross-connections and the status of inactive wells reported DPH. An annual main flushing program needs to be implemented. Tanks must be inspected every ten years. Consider flushing the atmospheric storage tank and hydropneumatic tank on regular basis to minimize any build up of sediments in the bottom of the tanks that may cause bacterial growth and lead to water quality problems. All valves (shut-off, ball, etc.) installed should be exercised on an annual basis to ensure that they are in operating condition. The area surrounding the production wells and inside the pump house should be maintained in a sanitary condition to protect the source of supply from potential contamination.	The backwash water was being discharged into a temporary holding tank located next to the filter vessels. There was indication, at the time of the survey, that the holding tank overflows during the backwash since traces of sediments were noted on the pump house floor. It is recommended that the temporary holding tank be removed and the connection of the pipeline carrying backwash water be modified in such way as to allow the backwash water to be discharged directly into the final disposal site. Replace the missing bolts of the well caps for Well #5 and Well # 6.	2		1		1
34	2012	There is a dumpster near well 1 that needs to be relocated to a location at least 75 feet from that well. The cover of the emergency fill line of the storage tank should be provided with a security lock to protect the system from vandalism. The entrance door of the pump house should be kept locked at all times.	Distribution system must be flushed annually. Consider flushing the atmospheric storage tank and hydropneumatic tanks on regular basis to minimize any build up of sediments in the bottom of the tanks that may cause bacterial growth and lead to water quality problems. All valves (shut-off, ball, etc.) installed should be exercised on an annual basis to ensure that they are in operating condition. The area surrounding the production wells should be maintained in a sanitary condition to protect the source of supply from potential contamination. The emergency generator should be exercised under load on regular basis.	<i>This system was built in 2007.</i> Since the pipeline feeding water to storage tank used for fire protection is directly connected to domestic water system, it is recommended that its terminal end be provided with a suitable screen to prevent insects and foreign materials from entering the drinking water system.	1		1	1	1

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35	2012	The entrance door to the basement where the system components are located should be kept locked to protect the system from vandalism. The access road to Well 3 (located in the wooded area) should be cleared from bushes and vegetation to allow easy access of service vehicle and equipment needed should the well require immediate maintenance or repair. The cap for the emergency fill line of the atmospheric storage tank should be provided with a lock to protect the system from vandalism.	The 2011 cross connection report did not identify the pool as a concern. Distribution needs to be flushed annually. Tanks need to be inspected every ten years. The current condition of the atmospheric storage and a hydropneumatic tanks was noted as deteriorating due to corrosion. The tanks should be properly maintained to protect the integrity and ensure the purity of the water being delivered to the public. Consider cleaning the atmospheric storage and hydropneumatic tanks on a regular basis to minimize any buildup of sediments in the bottom of the tanks that may cause bacterial growth and lead to water quality problems. The area surrounding the production wells and the tanks should be maintained in a sanitary condition to protect the system from potential contamination.	The broken air vent for well 3 needs adequate screening to prevent foreign matter from getting into well. For additional mitigating measure to protect the system from chemical overfeed, the well pumps should be wired to the chemical metering pump to prevent from activating when the well pumps are not energized. A second chemical metering pump should be provided to serve as a backup pump should the primary pump fail. Consider activating the two wells simultaneously to maintain consistent water quality being delivered to the public. The holes on the chemical tank cover should be provided with watertight plugs to prevent insects or foreign objects from entering the tank. Consider installing an emergency generator with sufficient capacity to operate the facility should the street power supply be interrupted.	2		1	1	1
36	2010		Essential valves must be maintained in good operating condition.	Wells# 3,# 4 and# 5 are not equipped with watertight well caps. Also the well pump electrical service wire conduits are not joined watertight to the wells' # 3 and# 4 caps. Tank vent and overflow must be screened to prevent birds, insects from getting into tank. <u>The system appeared to be in good operating condition at the time of the survey.</u>	1		1		1
37	2010		Tank must be inspected every ten years.	The junction pit near well# 1 must be made water tight or filled in so that it will not act as a collection pit for storm run-off. There is only one transfer pump to deliver water to the distribution system. A second transfer pump is standard practice and is strongly recommended to maintain system reliability and increase water available for peak system flows. Alternatively, piping by-passing the atmospheric pump could be installed to deliver water directly to the bladder tanks if the transfer pump is unavailable or lost for some reason.	2		1		1
38	2010		Weekly water usage meter readings must be recorded for instantaneous and totalizing flow. An annual distribution flushing program needs to be implemented. Tank needs to be inspected every ten years. Essential valves need to be maintained in a good operational manner.	The outlet for the well pit drain line/sump pump discharge appeared to be located in a storm drainage basin and was unscreened. Due to the wet well house conditions the station was in need of routine maintenance. The well house station lights should be replaced, ceiling tiles repaired, tanks, valves and pipes scraped and painted. The problem of excess moisture corrected to extend service life of the facilities. <u>Since there is only one well for the system a second source of supply is recommended.</u> Although the system was in operable condition, the system is in need of considerable routine maintenance.	2	1	1		1

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<u>TC Group's CWS Assigned Reference Number</u>	<u>Inspection Year</u>	<u>Housekeeping</u>	<u>Operations & Maintenance</u>	<u>Improvements</u>	<u>System Condition *</u>	<u>Additional Source of Supply</u>	<u>Inadequate Sanitary Separation, Watertight Seals, Vent Screening, etc. and Wells Subject to Surface Runoff</u>	<u>Housekeeping</u>	<u>Operation & Maintenance</u>
39	2011		Consider flushing the bladder tanks on a regular basis to minimize any buildup of sediments in the bottom of the tank that may cause bacterial growth and lead to water quality problems. All valves(shut-off, ball, etc.) installed should be exercised on an annual basis to ensure that they are in operating condition The area surrounding the production well should be maintained in a sanitary condition to protect the source of supply from potential contamination.	<u><i>This system was built in the 1960s. Since the system depends on a sole source of supply and has a limited storage capacity, it is recommended that the system be connected to a neighboring water system with excess capacity.</i></u> If this is not possible, consider the recommendations outlined below: Installation of a second production well should be considered to serve as a backup source of supply should the existing well fail. A completed General Application Form and Well Site Suitability Application must be submitted to DPH if a second well installation is pursued. The usable volume of the bladder tanks should be evaluated to ensure that the tank is properly sized based on the withdrawal rate of the production well. Adequate size of the bladder tanks is recommended to prevent the pump from excessive cycling and reduce the electricity usage.	2	1			1
40	2012		Record the total usage and instantaneous flow rate on a weekly basis.	The flow meter should be re-located directly to the well discharge pipe, prior to the first bladder tank to allow for an accurate measurement of instantaneous flow.	2				1
41	2013		Weekly instantaneous and total flow readings need to be taken. An annual flushing program needs to be implemented. Tank needs to be inspected every ten years. Essential water valves need to be maintained in operational condition.	Recommend that 4 log disinfection treatment be installed. Water sampling taps need to be installed at all sources for raw water testing related to GWR.	2				1
42	2011		Arrangements need to be made to ensure instantaneous and total flow readings are taken weekly. Tanks need to inspected every ten years.	The on-site septic system tank is 73 feet from Well#2. At less than 10gpm the separation needs to be at least 75 feet. If a total coliform positive sample occurs remedial action may be required. There was water in well#1 pit. Need to get sump pump working and discharge water at least 25 feet from pit. Extend concrete tile at well#2 and install a concrete cover to protect the well from lawn mower activities or remove all the concrete tile. Should install an emergency generator.	2		1		1
43	2013	Lock on pump house pit needs to be replaced with a more secure locking mechanism.	Hydropneumatic tanks should be flushed periodically.	Well#1 is about 20 feet from a drainage swale that needs to be moved. Need to install a dehumidifier in pump house. Hydropneumatic tanks need to be painted. <u>Currently under takeover process administered by PURA and DPH.</u>	2		1	1	1
44	2013		Tank needs to be inspected every ten years. Positive total coliform found Nov. 2012 and corrected. Beginning 2013 TCR and physical parameter sampling will be required monthly. Need to update personnel contact info with DPH.	Well#3 does not meet the sanitary separation requirements. If a positive total coliform or a septic system failure, corrective action will be required. Production meters need to be installed and needed weekly meter readings recorded. Raw water taps must be installed at all sources to comply with GWR. Well#2 is near edge of pump house driveway and needs to be protected with steel bollards filled with concrete. All pump house openings need to be sealed. Pump house dead-end piping needs spigots installed to facilitate periodic flushing.	2		1		1
45	2011		An annual distribution flushing program needs to be implemented. Tanks must be inspected every ten years.	Well#1 is 25 feet from storm drain. Recommend obtaining map of storm drain system to assess location of piping. No further action will be required unless water quality issues arise. Need to replace screen on atmospheric tank vent.	2		1		1

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46	2010		Tanks need to be inspected every ten years.	Conduit leading to well#3 cap needs to be sealed watertight. Well#1&3 need to operate at less than 10gpm to meet separation requirements from nearby sewer system. May require installation of a flow restrictor. Trees around tank should be removed.	2		1		1
47	2012	Landscaping material is being stored near wells and needs to be removed. Evidence of rodents in pump house. Pump house needs to be maintained in a sanitary manner.	Tanks need to be inspected every ten years. Need to update contact list with DPH to reflect new system administrator. Need to provide info on well operation. Do the wells alternate or operate together? This is needed to determine if production meter is working properly.	Total coliform positive found the 4th quarter of 2011. Believed to be the result of work done at well#3. Problem disinfected and corrected. No further action required. Atmospheric tank bulkheaded through pump house wall and outside pump house wall tank is covered with dirt. Found a portion of the tank was exposed and needs to be backfilled with dirt to prevent corrosion.	2			1	1
48	2010		Need to submit a current system map to DPH. An annual distribution flushing program needs to be implemented. Essential valves need to be maintained in operational condition.	Well#1 casing is not watertight and needs to be replaced. When well casing is replaced it should be extended 12 inches above floor. Well#2 needs to have a flow restrictor installed to maintain 9gpm to meet the sanitary separation requirement. Oil tank is close to well#2 and needs to be moved or contained with a concrete basin. <u>Need to provide documentation to DPH that the water softener treatment was approved or be subject to a fine of \$5,000 per day.</u> Need to increase capacity or implement a conservation program.	3	1	1		1
49	2012		Instantaneous and total flows must be recorded weekly.	The tank must be properly screened and sealed. All conduits need to be sealed watertight. Chemical feed and tank overflow alarms should be installed. <u>Currently considering transferring ownership.</u>	2		1		1
50	2011		A site map is needed. An it would be good if property around wells was not fertilized. Tanks need to be inspected every ten years. Annual distribution flushing program needs to be implemented.	Recommended that a contact time tank be installed to improve disinfectant treatment. This system is one of 3 systems serving this school and it is recommended that the systems be consolidated to create redundancy and possibly reduce the level of needed water testing. All wells not being used should be properly abandoned.	2				1
51	2013		Tank needs to be inspected every ten years. Essential water valves are to be maintained in operating condition. An annual distribution flushing program needs to be implemented.	Well#2 has a depression that needs to be filled with clean soil to ensure runoff flows away from well. Well#5 pit has a hole in floor that needs to be sealed watertight. Need to determine what a pipe near well#2 is used for and take appropriate action.	2		1		1
52	2012		Test for ph daily.	Well is subject to service water wash. May need to extend well casing 6 inches above grade. Drain pipe needs to be screened.	2				1
53	2012		If chlorine residual falls below approved level will have to take a sample every four hours until residual returns to approved level. An up to date system map must be maintained.	A production meter needs to be installed on each source of supply and weekly meter readings need to be recorded. Could not verify that disinfection system is 4 log. DPH has an open project for well#3 to be drilled. If this project does not move forward soon DPH will close project.	2				1
54	2009		An annual distribution flushing program must be implemented. Tanks must be inspected every ten years. Essential valves must be maintained in operational condition.	Capacity of booster pumps needs to be determined. Need to verify that the softener backwash is located outside the sanitary radius of the wells. <u>At the time of the survey it was indicated that significant improvements were planned.</u>	2		1		1

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55	2013	The vegetation around the concrete tank needs to be removed on a regular basis.	Must provide DPH with an up to date system map. Continue to not fertilize around the wells' sanitary radius. Well#6 generator needs to be exercised on a regular basis.	Well#3 must be restricted to 9gpm with a flow restrictor. Hatches on 150,000 gallon storage tank must be sealed watertight. Well#3 pump house needs a dehumidifier installed. The electrical conduit for the irrigation submersible pump needs to be sealed. If well#5 is not used it should be properly abandoned.	2		1	1	1
56	2012	Vegetation around well#5 pit needs to be cleared. In addition, well#5 pit door needs to be fixed.	Sediment filter needs to be changed on a regular basis.	Flow restrictor needs to be installed to maintain well operation at less than 10 gpm to be in compliance with septic system separation requirement. All conduits entering well pit need to be sealed to maintain a watertight structure. The sump pump discharge must be extended to 25 feet from pit. <u>It is recommended that an interconnection with a neighboring water system with excess capacity be pursued.</u>	2	1	1	1	1
57	2012		Tanks must be inspected every ten years. In 2012 elevated level of lead was found. To correct this owner submitted an application with DPH to start treating water with potassium hydroxide, which is currently under DPH review.	Well#3 needs to have a flow restrictor installed to ensure it doesn't operate above 10gpm to comply with the current septic system separation requirement.	1		1		1
58	2011		Weekly water usage meter readings must be recorded for instantaneous and totalizing flow. Tank needs to be inspected every ten years.	System was in satisfactory condition at the time of the inspection.	1				1
59	2010	It is recommended that vegetation around well 1 be cleared.	Tank should be inspected every ten years.	There is a 3rd well not in service that should be properly abandoned.	2			1	1
60	2012			No violations cited. <u>However, at the time of the inspection it was recommended that a second well be drilled.</u> Generator was to be installed in 2012 and the tank had been inspected and refurbished recently.	2	1			
61	2012		Tank needs to be inspected every ten years.	The current disinfection system is not a 4-log.	2				1
62	2011		The section of pipe equipped with a blowoff from the water main to the fire tank should be flushed during the semi-annual flushing program. Tank is to be inspected every ten years. Build site map needs to be forwarded to DPH.	<u>This system was built in 2001.</u> Wells were approved for less than 10gpm. Inspection found them operating at 14gpm and should be throttled down to less than 10.	1				1
63	2011		Tank needs to be inspected every ten years. Essential valves need to be maintained in good operational condition.	Good system water capacity. System was found to be in good condition at time of inspection.	1				1
64	2011		Weekly water usage meter readings must be recorded for instantaneous and totalizing flow.	Blowoffs should be installed on all dead ends to enable flushing of these locations during implementation of flushing program.	2				1
65	2010		Need to update system map. Essential valves need to be maintained in good operational condition.	To prevent over chlorination install a no-flow switch and a proportional to flow pump with auto shutoff and alarm. Need to demonstrate that current chlorination system is 4-log. System found to be in satisfactory condition at the time of the inspection.	2	1			1
TOTAL					65	19	36	13	61
						29%	55%	20%	94%

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				<u>* System Condition Description</u>	<u>Count</u>				
				1. Good: System is providing safe service that meets standards.	7				
					11%				
				2. Fair: System currently able to provide safe service to its customers but within	54				
					83%				
				3. Poor: System is not providing adequate service and will need to make major	4				
					6%				