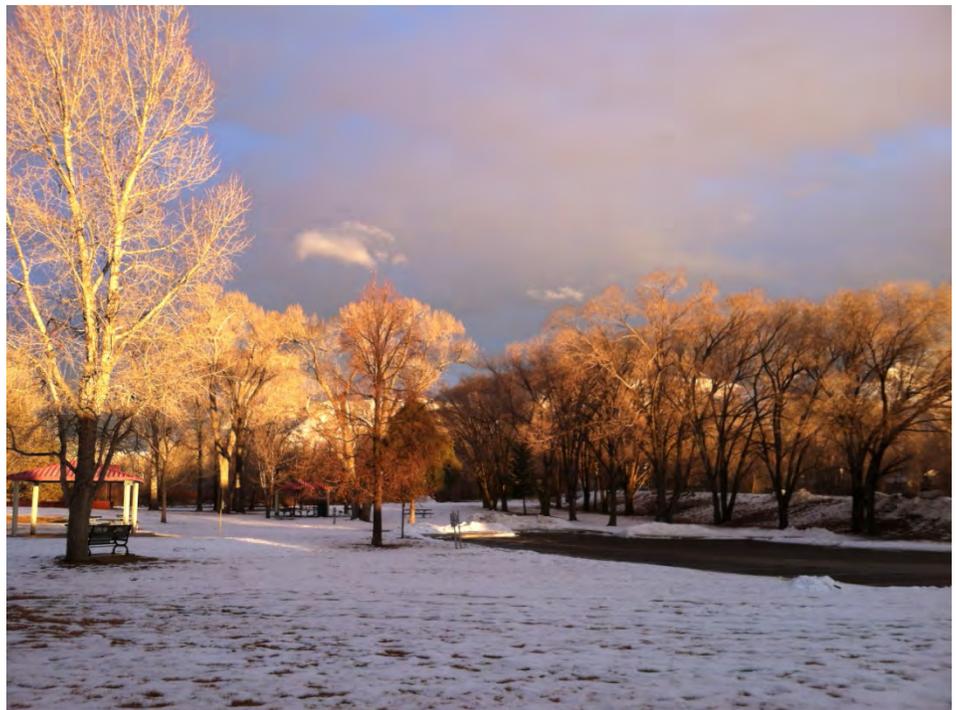


MANCOS WATER EMERGENCY AFTER ACTION REPORT



2/26/2014

Analysis of Town of Mancos Water Outage

Town of Mancos, Colorado

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Mancos Water Emergency After Action Report

ANALYSIS OF STRENGTHS, AREAS FOR IMPROVEMENT AND NEXT STEPS

Introduction

On Saturday, February 8th, the Public Works Director discovered that the water storage tank at the town's water treatment plant was only half-full. Normally, the tank is at least three-quarters to completely full of treated water. When he went to the plant, he realized that the pump that brings water from the settling pond into the water treatment plant for treatment was not functioning properly. After taking steps to try to correct the mechanical problem, which were unsuccessful, he called in the assistance of the Streets Supervisor and two Public Works staff members to help install a backup pump.

The Public Works Director notified the Town Administrator and Town Clerk/Treasurer that there was a problem, and that if the backup pump could not be made to work, then the town could lose water within the next 12-24 hours. At that time, town staff began calling emergency contacts such as Montezuma County dispatch and all "high water users" such as the school district, the Valley Inn nursing home, and restaurants, to give them notice of the issue. The Mayor and members of the Town Board of Trustees were also notified.

The Public Works crew spent at least twelve hours trying different options to get the backup pump or a combination of the backup motor and the current pump to work but it finally became apparent that there was an internal wiring problem in the back-up motor. At that point the Public Works Director notified town staff near midnight that their efforts were unsuccessful and that water would most likely go out in the late morning.

Staff arrived at Town Hall early on Sunday morning to open Town Hall and begin making additional phone calls to local businesses to notify of them of the emergency. The Public Works Director began seeking a replacement pump and motor from the town's supplier in Farmington, NM. The Mancos Town Marshal reached out to the County Emergency Operations Manager for assistance, who arrived late morning to set up an Emergency Operations Center (EOC) at Town Hall.

While Public Works staff continued to work on potential solutions at the water treatment plant, including digging a gravity-fed water line and utilizing a fire truck to pump water into the plant, staff at Town Hall worked with the EOC on immediate actions. Town Hall became the distribution center for water and information. A 6,500 gallon water tanker with potable water was set up at town hall and a 2,000 gallon water bladder was installed at the Valley Inn. Bottles of water were donated by Wal-mart, the Mancos Fire District, and the Red Cross. Over 30 Port-a-johns were placed around town. The Superintendent cancelled school on Monday and Tuesday. The first of two public information meetings was held on Sunday night. CDOT assisted by installing flashing signs at the east and west sides of town informing motorists of the issue. Web site updates, talking points and press releases were prepared regularly to share information with the public. Marshal's Office staff set up regular checks on the Valley Inn and (known) homebound individuals in town. Town Hall staff was augmented by the assistance of volunteers at the water truck and town hall remained open from 6 am to 10 pm for several days. An additional town hall phone line was dedicated to provide

updated, recorded messages. The fire department assured the town that mutual aid with nearby fire departments would be available in case of a fire emergency. The Montezuma County health department required restaurants to shut down until further notice.

Finally, on Tuesday Feb. 11th, the town's contractors and Public Works staff was able to locate and install a temporary backup pump on a skid at the water treatment plant. On Wednesday afternoon, enough water had been treated and pumped into the water storage tank to allow for flushing of the water distribution lines and hydrants. High school volunteers went door to door with adult group leaders to post a boil alerts. Residents were able to flush their toilets, but could not use the water for cooking or drinking. The Public Works Director worked with the state department of health to add additional chlorine to the system. Once chlorine levels dropped back down, samples were taken in several places around town and taken to a lab in Durango. The samples were tested and reviewed by the state health department, who lifted the boil advisory on Friday February 14th.

A permanent pump was ordered from California, which was installed on Thursday February 13th. Public Works staff continues to monitor the pump and test water levels. Town staff met with the County Emergency Operations Manager and the county health department Emergency Preparedness and Response Coordinator to conduct an after action session to analyze what went well, what needed improvement, and what the next steps towards improvements are.

Major Strengths

The team identified several areas that went well during this emergency. The major strengths identified during the town's response to the water emergency are as follows:

- **Used creative solutions and got the water back on fast:** Although the days seemed incredibly long to businesses, residents, and staff, the total time that water was out during the emergency was only 72 hours. From Sunday morning to Wednesday afternoon, the town was without water. Compared to other emergencies around the country, this situation was relatively minor in that there were no casualties. Staff and contractors tried everything possible to get the water back on as soon as they could.



FIGURE 1: TEMPORARY PUMP INSTALLED

- **Provisions were made immediately for the needs of the community:** Upon the recommendation of the EOC manager, supplies were immediately requested and made available for residents to cover their basic needs. Over 30 port-a-johns were placed in strategic locations around town; a 6,500 gallon water tanker with potable water was provided on Main Street in front of town hall; dozens of cases of bottled water were donated and distributed (including to home-bound individuals) and hand sanitizers were provided. Showers were provided at a discounted price at the Cortez Recreation Center.



FIGURE 2: WATER TANKER AT TOWN HALL

- **Used local emergency management and established Emergency Operations Center (EOC) at Town Hall:** The County Emergency Manager, County Health Department Emergency Response Coordinator and the Environmental Health Inspector immediately set up a “control center” in the form of an EOC in the Board Room at Town Hall. They provided continual advice, information, and assistance to town staff and were immeasurably helpful in coordinating response with the state health department. They notified the state health department in advance that the lab samples were coming and to be on notice. This helped to give a quick turnaround in lifting the boil alert. Each person had a laptop and utilized the mobile office to help draft talking points and press releases, share information with the county, and assist in public and internal briefings. Mancos certainly benefitted from their experience.
- **Able to get information out to the public in multiple ways:** Although each method could use some improvement, the town and the EOC were able to distribute information to the community quickly, and in a variety of ways.
 - As soon as it was apparent that the town was going to lose water, staff began calling businesses and other high water users.
 - Staff kept in contact with the Valley Inn Nursing Home to ensure that their water and sanitation needs were taken care of throughout the crisis.
 - Boil Alerts with FAQ in both English and Spanish were taken door to door to every business and residence in town. Extra copies were provided at high traffic areas such as the P and D Grocery Store. A team of 15 volunteers assisted in this important effort.

- Town Hall stayed open for extended hours, from 6 am to 10 pm for in-person questions. Boil Alerts, fact sheets, press releases, and other information were provided at Town Hall and staff was available to assist with providing information.
- The Town Administrator kept in contact with the Chamber of Commerce, who put out notices via electronic newsletter.
- The Mancos Times/Cortez Journal, KSJD Radio, KOB tv station, and other news outlets were in regular contact with Town Hall, providing news articles.
- Notices and information were posted on Facebook and other social media.
- Two public meetings were held on Sunday February 9th and Tuesday February 11th at Mancos Town Hall to provide information and updates on the situation. Both were well attended.
- CDOT provided two signs at the east and west sides of town on Hwy 160 to inform motorists of the Mancos Water Alert and to contact the information line.
- Town staff created and maintained an information line 970-533-1431 for recorded updates.
- The town web site www.mancoscolorado.com was maintained with continuous updates, boil alert information, press releases and locations of porta johns.
- **The Community was generally understanding of the issue and volunteers provided assistance in many ways:** Offers for assistance came in from many different individuals and organizations. The Mancos Fire District, the Red Cross and Wal-Mart provided cases of bottled water. CDOT crews fixed the holes in the street created by the water tanker and provided informational signs on the Hwy 160. Students from Mancos Schools organized themselves to go door to door to post boil alerts and a group of junior high students worked at Town Hall to assist residents with filling their water containers. The Mancos Fire District lent a fire truck to pump water into the plant and assisted public works staff in efforts to fix the mechanical issues at the plant. Mancos Rural Water and Montezuma Water Company staff offered to help. There are many more individuals and organizations that reached out to express their concern, offer assistance, and their thanks to town staff for doing their best in this trying situation.
- **Town staff worked well together and stuck to it:** Despite working long hours for several days in a row under stress, staff worked very well together. Assignments and tasks were divided and everyone was willing to pitch in. Everyone saw what needed to be done and worked tirelessly to take care of it. The public works crew worked at the treatment plant to deal with the mechanical issues. The Marshal's Office made regular visits to homebound individuals and the Valley Inn, and provided a police presence at press briefings and public information meetings. Staff wore their Mancos town shirts to identify themselves. Office staff kept town hall open for extended hours and staff took shifts and went on errands, as needed (e.g. picking up lunch for everyone and taking it to the public works crew,

going around town with the port-a-john company to help with placement, etc.). Staff also coordinated logistics and worked well with contractors to order supplies and equipment.

- **Regular and continual briefings with staff and the public helped to keep everyone “in the loop”:** At least twice a day, brief meetings were held with key staff, contractors, the EOC and the Mayor to discuss the status of the situation and next steps. Typically, these were impromptu meetings, but helped to give everyone the same information at the same time and to provide an avenue to address concerns and discuss potential solutions as a team.



FIGURE 3: VOLUNTEERS HELP DISPENSE WATER

Areas for Improvement

The team discussed the town’s response to the water emergency and identified areas that could have been better. These areas for improvement are as follows:

- **Have a system set up for regular testing of equipment at WTP:** Although the back-up pump was tested before an attempt was made to put it in service, it was not tested under a full load in actual conditions. Had the back-up pump been tested under a full load, the error in the rewinding of the motor would have been discovered and the entire mishap would have been avoided. Back-up equipment critical to operation should be tested under actual conditions. This type of preventive maintenance schedule should be created and implemented as soon as possible at both the water treatment plant and wastewater treatment plant.
- **Create redundancies in the system and plan for emergencies:** This emergency has brought to light the need for several emergency or back up procedures. Some of these items are agreements with other organizations, while others involve installation of new equipment or backup systems. These plans including the following:
 - Create an MOU with Mancos Rural Water and Montezuma Water Company that identifies ways to assist one another in an emergency.
 - Create an MOU with the Mancos Fire District.

- Install a gravity-fed water line that bypasses the pump and brings water directly from the reservoir
- Install an interconnection line and valve at the plant where the town's water lines are close to Mancos Rural Water.
- Install a backup switch at the Water Treatment Plant for emergency power and bring in a generator.
- Move forward quickly with the water storage tank re-bid and begin the construction project as soon as possible.
- Develop a resource list of vetted on-call contractors, places that provide back-up equipment, etc.



FIGURE 4: WATER BLADDER INSTALLED AT VALLEY INN NURSING HOME

- **Improve operational procedures at Town Hall:** Staff worked very well together but quickly realized that we were not entirely prepared for an emergency. Items to improve upon are:
 - Give specific duties to staff. One person may be in charge of working with contractors and ordering supplies; another may be a logistics person who runs errands; another may help with coordinating volunteers, etc.
 - Create and make readily available an updated map of town that shows the street layer and major buildings.
 - Manage by objectives. This was recommended by the County Emergency Operations manager.
 - Create one location (perhaps designate a work station and/or a folder) that is “information central” and includes the volunteer list, contact information for contractors, messages, etc. One

- option is to keep all of this in the EOC so that shift workers can see what has transpired previously.
- Town Hall should have a toolbox with working flashlights, basic tools, etc.
 - Make sure that the front desk person(s) have the information that they need to address public inquiries. Mornings were busiest, so consider have at least two or three staff on for early morning.
 - **Improve communication procedures:** While the town was able to get information out to the community in multiple ways, the message and the procedures in which it was created and delivered could be improved. The team developed the following ideas:
 - Do a public push to get everyone (especially restaurants and high water users) registered to receive alerts on nixle.com
 - Develop and maintain a list of media contacts
 - Maintain a staff call-down list with back up numbers and make sure all staff have the numbers at their home and programmed in their phones.
 - Need a trained PIO(s) to create regular bullet points and press releases, and to take care of social media.
 - Create and maintain a town Facebook page
 - Update and maintain an emergency call list for restaurants, hotels and organizations. Perhaps designate a phone tree.
 - Look into reverse-911.
 - Have regular staff briefings so that everyone is in the loop. For shift workers who did not receive the briefing, keep the bullet points in the information folder in a central location (EOC or other designated place).
 - Need to provide talking points to all staff and volunteers. This information should be coordinated and staff should only give what is provided. Speculation, rumors and misinformation can be difficult to control.
 - **Better Volunteer Management:** During this emergency, several groups and individuals offered their assistance in multiple ways. In an effort to better utilize volunteers, it is recommended that the town create a volunteer on-call list of organizations that can mobilize volunteers. They should have their own insurance and be able to assist with various needs.
 - **Cost Management:** During an emergency, it is difficult to seek the best prices on supplies and equipment and services. However, it is important to track and manage costs.
 - **Designate an Emergency Operations Center and Control Access:** During this emergency, it was very helpful to have a designated EOC set up in the rear of town hall in the Board Room. However, access

was not controlled and residents, volunteers, the media, and others had access to the EOC and other parts of Town Hall. Consider methods to keep individuals up front and/or designate a different spot (such as the Community Center) as the location to distribute supplies, get information, etc. to keep the EOC clear.

- **Designate an Incident Commander and send key staff to ICS training:** The county emergency manager recommends designating an individual who serves as an IC. In addition, key staff should attend ICS trainings.



FIGURE 5: FUTURE INCIDENT COMMANDER AND VOLUNTEER EXTRAORDINAIRE GRAY STECHER

Timeline-Action Steps

The following timeline sets out goals for implementation of the action steps identified.

Action	Who	By When
1. Reach out to organizations with volunteers and establish an on-call volunteer list with duties	Parks and Rec Coordinator	March 31, 2014
2. Install gravity fed line with functioning valve	PW Director and Street Supervisor	March 31, 2014
3. Develop contractor list and identify service providers and equipment available in case of emergency	Town Clerk/Treasurer	March 31, 2014
4. Create MOUs with fire district and nearby water companies	Town Administrator and PW Director	March 31, 2014

5. Create Town Facebook Page	Town Administrator and Town IT Director	March 31, 2014
6. Staff attend PIO Training and ICS training	Town Administrator, Town Marshal, Town Clerk/Treasurer	Ongoing
7. Look into costs of setting up town reverse 911	Town Marshal	March 31, 2014
8. Develop and maintain a list of media contacts	Town Administrator and Mayor	March 31, 2014
9. Create a Town Hall toolbox	Town Clerk/Deputy Town Clerk	TBD
10. Create an updated streets map of Town with key landmarks	Town Administrator, county GIS	March 31, 2014
11. Install an interconnection between Mancos Rural Water and Town lines	PW Director, Contractor?	TBD
12. Move forward with water system improvement project, which includes the water storage tank	PW Director, Town Administrator	Rebid March 2014 and construction Summer
13. Promote Mancos Cash Mob to help restaurants recover lost revenue	Town Administrator, Board of Trustees, Chamber of Commerce	March 2014
14. Update emergency contact list for area businesses, including back up phone numbers	Town Clerk and Deputy Town Clerk	March 31, 2014
15. Publicize nixle and encourage everyone to sign up to receive alerts	Town Marshal	April 30, 2014
16. Install backup power switch at Water Treatment Plant in conjunction with the current water improvement project. Research getting a backup generator for the water treatment plant.	PW Director	May 31, 2014
17. Continue work on Town Emergency Operations Plan, in consult with Montezuma County Emergency Operations Manager. Finalize and distribute to Staff.	Town Administrator	May 31, 2014