



# MEMORANDUM

To: Nederland Board of Trustees  
From: Jason Morrison  
Date: July 5, 2012  
Re: Staff Report -- Public Works

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## Collections, Distribution, and Water Treatment Plant

The work we have been doing with Ramey Environmental Compliance, Inc. (REC) has been a great experience so far. Dave Mardick, the REC representative, has already helped to streamline some of the day-to-day items in utilities and has corrected some of the items in need. One of the corrections items entailed installing vents in the vaults throughout town, which are required for crew safety purposes and had never been installed. One other change was an increase in the pH level in the Town's treated water supply by about 1 point, which can help preserve the Town's water distribution system. As we replace items in the water system this pH increase will be a valuable change for down the road.

Recently, we have had some issues with water pressure fluctuations in the Old Town area, as well as some of the higher points in town that are fed from the Bridge Street Pressure Reducing Valve (PRV) vault. We have been able to track it to what we believe to be a bad PRV; we are currently getting bids from manufacturers to replace as many PRV's as possible this year.



**LEFT: Corrosion is evident in this photo of the Bridge St. PRV, which is slated for replacement.**

As you know, much of the water system is past due for replacement and with the new waste water treatment plant underway and the new water plant up and running, we can now focus our efforts on the distribution system in between the two.

In May, we believed we had a water leak somewhere in our system and we spent several days trying to locate this leak. One issue we found at the end of one of the lines on the west side of town was a steel section of pipe with a 4-inch wooden plug in the end. This is how they plugged the end of water lines in 1968. The wooden plug had rotted out and water was leaking out and into the ground. We removed the old section and replaced it with something a

little more modern, but in 43 years someone will probably say, “That is how they did it in 2012.” As well as this leak, staff utilities operator Chris Pelletier and geotechnical engineer Mark Weritz decided to take a second look at the “spring” behind the mining museum. They dug a test hole and took a chlorine residual reading to find the “spring” had the same chlorine level as water from a tap anywhere in town. After digging down through a French drain for the spring’s runoff, we encountered an abandoned water line that had never been turned off at the valve. We dug in another area and found the shut-off valve and were able to shut off the “spring”. So far, no new water has surfaced.

## Waste Water Treatment Plant Project

On the waste water side, things are moving along at the new plant. We passed our concrete leak tests on the underground treatment tanks, and backfilling of the hole is almost complete. Rebar inspection was completed on the head works building, and concrete pouring for the foundation is scheduled to begin the week of July 16. The large-scale dewatering and water treatment process is complete.

## Parks

After getting hit with quite a bit of vandalism early in the summer, we are getting most of it repaired. While the kids fishing dock is still getting a lot of use, we will have to look at a major overhaul in the near future. Some of the wood in and near the water is beginning to deteriorate. While we schedule more dates with Mountain Youth Corps, we will be looking at having them paint the pavilion at Chipeta Park, as well as the gazebo.

## Streets and Drainage

Drainage is an ongoing challenge in town. **(More on the current flooding in the Administrator’s Report.)**

As the Board was informed last month, replacement was required for a large section of culvert at Bridge Street and Highway 119, which carries Caribou Creek under Bridge Street. Deterioration of the culvert, soils movement resulting from last summer’s flooding and the weight of heavy traffic on the roadway combined to damage the facility, shown on the surface by a developing sink hole. The repair has been completed, with installation of a new culvert, repair of the culvert entry, clearing of debris and patching of the roadway. With the very acidic water we have metal culverts do not last as long as they should. After having an engineer and Boulder County look at the situation and giving their recommendations we believe the fix we have made will last much longer than the previous culvert. We installed a plastic coated metal culvert, put in 12” thick head walls, and adjusted the slope to help move water through even when dirt and rock begin to build up. The previous culvert system was made up of old boilers welded together and more modern CMP culvert, of various sizes, we replaced with 60” culvert in order to have plenty of flow during heavy rains like we had last year. This fix should last for many years to come.

## BEFORE

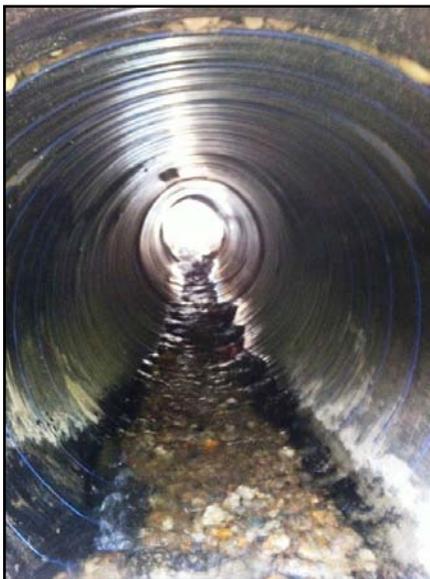


**Left:** This photo of the Bridge St. culvert before repair shows the old metal culvert compacting under the weight above it.



**Right:** In this photo, it is easy to see how the metal culvert had broken down and no longer maintained its structural integrity. As part of the project, the culvert entries were repaired and reinforced with concrete.

## AFTER



**LEFT:** The old metal culvert was replaced with this long-lasting heavy-grade plastic culvert, which is more resistant to corrosion and chemicals than traditional metal.

While the Bridge Street culvert project was underway, a broken sewer tap was discovered at the main sewer line in the area. While the road was closed for the culvert repair, Public Works crews dug up the line and replaced the tap. Since the ground in this area is stable once again, we should not have any more problems.

It will not be long until we do this again in another area. While we have unplugged several culverts in Big Springs and some in Sunnyside, there are a lot more still to do, but with the lack of moisture this year, Public Works had shifted its priorities to cleaning up as many of the downed trees and slash chipping related to the wind storm last year.

We have started with the Town land at the end of Lakeview Drive. We have been getting assistance with this from Mountain Youth Corps. They have been doing a great job, and we look forward to working with them as much as possible this summer. In light of the recent storms, Public Works is making several repairs around Town.