



## **WATER CONSERVATION PLAN**

**CertainTeed Gypsum Manufacturing, Inc**  
**Las Vegas Plant**  
**HCR 89033, Box 2900**  
**Las Vegas, Nevada 89124**

**December 2009**

## **1.0 Introduction**

This plan is prepared pursuant to Nevada Revised Statutes (NRS) 540.121 through 520.151 for CertainTeed Gypsum Manufacturing, Inc. (CertainTeed). CertainTeed owns and operates a gypsum products plant approximately 20 miles southwest of Las Vegas, Nevada near Blue Diamond, Nevada. The facility receives gypsum rock by truck and produces gypsum wallboard, landplaster and plaster products. Gypsum for landplaster is crushed, dried and finely milled. Gypsum for wallboard and plaster products is crushed, dried, finely milled and calcined. The calcined gypsum (stucco) is used to produce wallboard by mixing small amounts of other raw materials with the stucco and blending these with water to produce a slurry. The slurry is then extruded into a paper mold to produce wallboard. Plaster is simply stucco mixed with small amounts of other raw materials.

Water for the manufacturing plant comes from two wells on CertainTeed property which are covered by Nevada Division of Water Resources (DWR) Permits 14673, 14888, 17384, 17385 and 23689 for a total of 699.3 acre-feet annually. These wells are located approximately a 0.4 miles away from the manufacturing plant across Highway 159 to the south. In 1994, CertainTeed transferred 150.0 acre-feet to the Las Vegas Valley Water District (LVWD) for the purpose of supplying water to the town of Blue Diamond. Both wells were drilled in the 1950s and reach a depth of 75 feet. The wells are configured to provide water to both the CertainTeed manufacturing plant and the Blue Diamond public water system. Storage capacity for the public system is 261,000 gallons in two tanks located on a hillside immediately south of the Village. The booster pump that provides water to the storage tanks is also owned by CertainTeed. Pumps run intermittently on an as-needed basis.

CertainTeed has two, 30,000 gallon storage tanks located on a hill behind the manufacturing plant which are automatically filled from the wells. This water is used for manufacturing wallboard, domestic purposes and as an emergency source of water for fire-fighting. Water flow to the tanks is metered at the well station. Although LVWD is responsible for the quality of water delivered to both Blue Diamond and CertainTeed, CertainTeed maintains a permit from the Nevada State Health Division as a Non-Transient Non-Community Ground Water Purchased public water system (Permit #CL-0364-12NTNC).

Historically, CertainTeed used more water than presently, primarily because it also operated a gypsum mine. The mine was shutdown in 2005. In 2006 – 2007, water use averaged approximately 8.5 million gallons per month. Current use is much less due to economic conditions over the past few years which have significantly impacted the manufacturing plants operation.

## **2.0 Conservation Plan**

CertainTeed is aware of the extreme importance of water conservation in the Southern Nevada region and is committed to planning for the reduction of water consumption to the extent feasible. The plan is comprised of five (5) elements:

- Employee education
- Reuse of water
- System maintenance to reduce leaks
- More efficient use of water in manufacturing and for landscaping

Each element is described in more detail below.

## **2.1 Employee Education**

In order to ensure that employees are made aware of CertainTeed's commitment to conserve water, a notice will be provided to employees encouraging them to conserve water and report waste.

## **2.2 Reuse of Water**

Some of the water used in the manufacturing process can be recycled. CertainTeed has installed sumps and tanks to collect this water and introduce it back into the process.

## **2.3 System Maintenance to Reduce Leaks**

As noted previously, water used by the manufacturing plant is pumped from wells which are located approximately 0.4 miles from the manufacturing plant. From the storage tanks, the water is gravity fed to either the manufacturing plant or the emergency fire pump system. Most of the piping in the system is relatively new. In 1995, the portion of piping that feeds the manufacturing plant from the storage tanks was replaced. The piping from the wells to the storage tanks was replaced in 2000.

Leaks in any water distribution system are unavoidable and it is therefore important to maintain not only the pumps but the piping and storage facilities as well. As part of its conservation planning, CertainTeed will develop a program to analyze and periodically monitor for leaks in the system. This program will be developed in 2010 and be made available for review by NDWR if requested.

## **2.4 More Efficient Use of Water**

Most of the water used in the manufacturing process ends up in the product since gypsum that is calcined to produce stucco must be rehydrated to produce wallboard. A significant portion is evaporated as well. The amount evaporated is dependant on a number of factors and has a significant impact on the cost of producing wallboard. For this reason, and due to CertainTeed's concern for water conservation, CertainTeed is working to reduce the amount of water needed to produce its product. Maintaining product quality is also a major concern and it is necessary to balance these concerns since changing the amount of water used to produce the wallboard can affect product quality.

Water is also used to control dust generated by the various activities associated with the receipt and storage of gypsum rock as well as the storage and recycling of gypsum wallboard. CertainTeed has already implemented measures to conserve water for these purposes including paving the route that haul trucks travel to bring gypsum to the facility and periodically treating unpaved areas with a chemical dust suppressant to preserve moisture.

Only a very minimal amount of the manufacturing site is landscaped.

## **2.5 Plan Performance**

Performance will be monitored through the use of existing water meters at the wells. As previously mentioned, most of the water used is for the production of gypsum wallboard. In 2006, the per capita (employee) consumption was approximately 2,670 gallons of water per person per day. In terms of production, the rate is approximately 0.2 MMgal/MMsf wallboard produced. The number of employees may fluctuate without significantly affecting this rate. For this reason, it is a better indicator of performance. CertainTeed's goal is to reduce the rate of consumption by 5% for the term of this plan (5 years). CertainTeed will monitor both rates as part of this plan to determine whether the per capita (employee) use and the use related to production can both be reduced by implementing the measures proposed in this plan. As long as the average number of employees rises and falls according to the

average production, this conservation plan should be able to show a reduction in the per capita (employee) use.

### **3.0 Contingency Plan**

In the event of a serious shortage of water for any reason, CertainTeed will coordinate with the LVWD to ensure a supply of water is available for plant personnel, the town of Blue Diamond and, if necessary, a reduced manufacturing demand.

### **4.0 Plan Adoption**

This section is to certify that the CertainTeed Gypsum Manufacturing, Inc. has adopted this plan and will commit the resources to have it implemented.

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Date \_\_\_\_\_

Doug Doyle, Mill Manager