



Goodwest's Broad Capabilities a Good Match For the Complexities of Water Treatment Plants

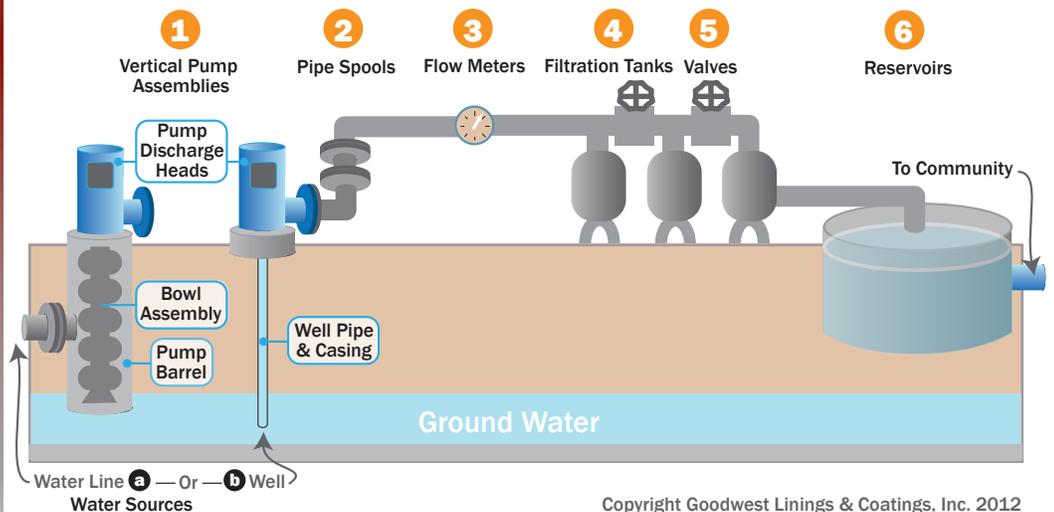
To the general public, drinking water is something they take for granted. Turn on the tap, and an unlimited supply of clean, safe water will flow. Waterworks professionals are responsible for providing the "miracle" of clean, safe drinking water 24 hours a day, 365 days a year.

In the southwest United States, the job of waterworks professionals is often made more difficult because of the many contaminants found in natural water sources. These contaminants must be removed prior to distributing the water to the public.

Water agencies and other organizations, including military facilities and large industrial sites, have permanent groundwater remediation plants that filter out these polluting agents.

Advantages

- End-to-end services available for a complete water filtration system
- Field and shop combination
- New construction and also refurbishment
- Wide variety of materials available
- Extensive safety training and documentation
- Established relationships with many water filtration system vendors



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Goodwest Linings & Coatings partners with water filtration agencies, engineering firms, and contractors, providing corrosion protection for new installations as well as repair and maintenance. The above schematic shows the many types of equipment involved in the groundwater treatment process that are protected by Goodwest.

Below are highlighted some of the materials and processes that Goodwest uses to help keep clean water flowing to the public.

1. Vertical Pump Assemblies

a) **Pump barrels** – This type of equipment presents challenges because of their difficult configuration. Access is limited because one end is closed, making pinhole-free epoxy linings challenging. Pinhole-free epoxy linings and coatings are installed at the Goodwest shop in Southern California. We also repair pump barrel linings on-site when necessary. We often recommend the use of fusion bonded epoxy. Linings made with this material are extremely smooth, reducing friction. The result is an increase in pump efficiency of up to 15%.

b) **Bowl assemblies** – Pump bowls with a spinning impeller shaft help create the centrifugal force that brings the water to the surface. Proper linings and coatings require detailed protection of machined surfaces, re-surfacing of holes in porous cast iron surfaces and full coverage of difficult to access areas. Fusion bonded epoxy linings significantly increase pump efficiency.

c) **Pump discharge heads** – These house the pump motor that drives the impeller shaft and serves as the ground level outlet. Goodwest has developed techniques to achieve pinhole-free linings in tight interior areas where it is difficult to even see the surfaces.

d) **Well pipe and casing** – Water treatment plants may pull water directly from underground natural sources that involves the use of hundreds of feet of pipe to reach the source. Goodwest lines and coats small diameter well pipe that often extends hundreds of feet into the ground to reach water sources.

2. Pipe Spools – Goodwest has mastered techniques for installing potable water epoxy linings to the interior of elbows, tees, manifolds, and other specialty fabricated pieces. Exterior coatings require extensive packaging protection to prevent damage during shipment.

3. Flow Meters – Goodwest installs rubber linings and a variety of epoxy linings in flow meters that measure water flow at treatment plants. Flow meters require uniformly smooth interior surfaces to operate properly. Flow meters are expensive; dependable linings protect them from corrosion and extend their life.

4. Valves – Goodwest coats valves with a variety of protective materials, with the material selection depending on the specific application. Valve components are very sensitive and must be properly protected before abrasive blasting and coating.

5. Filtration Tanks – Water treatment plants remove a variety of pollutants from groundwater. The majority of groundwater remediation vessels utilize activated carbon granules or resin beads to remove pollutants. Goodwest installs vinyl ester, epoxy, and elastomeric polyurethane tank linings that withstand the pollutants and abrasion from filtration media. In addition to lining new tanks at our shop, Goodwest performs on-site inspections, lining repairs, weld repairs, and component replacement for these vessels as they age.

6. Reservoirs – Epoxy and elastomeric polyurethane linings are installed in large steel and concrete tanks that hold the filtered water. Goodwest has extensive experience creating long-lasting pinhole-free linings on heavily degraded steel and concrete surfaces in tanks throughout the western United States.

The water filtration process is a complex one, with many service providers working together to deliver the final product – clean water. Goodwest is proud to be a partner of choice to many water districts and contractors, the company they turn to for linings and coatings in the field and in the shop.

About Goodwest Linings and Coatings

Goodwest has installed dependable protective lining and coating systems since 1961. Water, oil, power, transportation, and other key infrastructure providers rely on Goodwest to ensure critical equipment stays in service as long as possible. Goodwest specializes in applying materials resistant to the most aggressive chemical, abrasion, and high temperature environments. Our facility is located in Rancho Cucamonga, 30 miles east of Los Angeles. We perform field work throughout the western United States.

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