CETCO
ENERGY SERVICES

PITLESS WASHOUT SYSTEM CONCEPT FOR A READY MIX CONCRETE PLANT

SLURRYSEP™ SOLUTIONS CASE HISTORY

RESULTS/BENEFITS

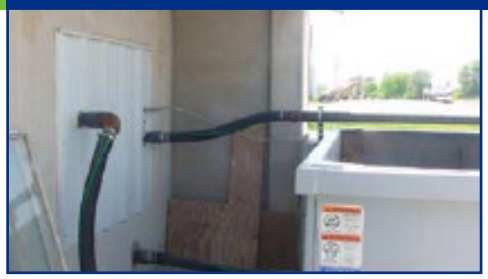
- The plant can washout 4 transit mixers trucks up to 3x per day
- System can be made to virtually be self-cleaning
- Removes nearly all the fines from the greywater container
- Ongoing benefit through the portable, space saving design, labor savings and compliance with the general stormwaterpermit requirements

CHALLENGES

- The plant had a small footprint (130' by 300') that could not afford space for a conventional in-ground concrete washout pit system, therefore could not accommodate mixer trucks
- To research and develop a new washout system concept for the plant
- Ensure compliance with the new environmental stormwater discharge standards and cost efficiency in both equipment and operations

SOLUTION

- CETCO designed SlurrySep™ - a unique greywater separation agent
- CETCO development effort targeted soil remediation and sludge stabilization at industrial sites, refineries, chemical processing plants, and for decommissioning nuclear sites



A dry batch ready mix plant in south central Nebraska came under new ownership, and the decision was made to somehow increase the plant's capacity for transit trucks. The plant had such a small footprint (130' by 300') that it could not afford space for a conventional in-ground concrete washout pit system, therefore they could not accommodate mixer trucks. Conventional wisdom states that to increase the number of trucks, one must increase the washout pit's capacity. The small nature of the plant did not allow the client to construct a pit. Even still, the new owners decided to keep the plant at its current location due to the production numbers and state of the economy.

The challenge presented to the environmental staff was to research and develop a new washout system concept for the plant. After two years of research, a pit-less system was conceived. In order to institute an alternative washout system, it was necessary to ensure that the new method would be cost efficient in both equipment and operations as well as ensure compliance with the new environmental stormwater discharge standards.

The company approached CETCO in need of a pit-less system and a way to control greywater discharge in compliance with regulations. Greywater presents the challenge of high pH, suspended solids and its effects on plants and water creatures. For over two decades CETCO has been working to develop innovative products and technologies for solids stabilization. Initially, this development effort targeted soil remediation and sludge stabilization at industrial sites, refineries, chemical processing plants, and for decommissioning nuclear sites. Drawing upon this experience, CETCO designed SlurrySep™ - a unique greywater separation agent.

Every morning the plant crew emptied the previous days

slurry filter bag, rinsed it off and replaced it in the box. While washing out the mixer trucks, drivers would dump one to four pounds of SlurrySep directly into the mixer drum. The washout requires 300- 400 gallons of recycled water from the holding tanks stored inside the heated shop. The spinning of the mixer drum during washout is so violent, that the SlurrySep activates and begins to capture the fines. Overall time for washout is not increased using this system.

The plant now can washout four transit mixer trucks up to three times per day. Through trials, it was established and discovered that the system can be made to be virtually self-cleaning. By running a consistent circulation of the container water through the box/filter bag, it removes nearly

PITLESS WASHOUT SYSTEM CONCEPT FOR A READY MIX CONCRETE PLANT CONTINUED...

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all of the fines from the greywater container. Another benefit discovered during trials was the effectiveness in cleaning colored concrete loads. The clay product captures the fines with the dye intact leaving only clear decanted water on top.

This installation is a proof-of-concept that a pit-less system is possible and economical with the use of SlurrySep. The cost of operation is equivalent to the current manual process, but the ongoing benefit is realized through the portable, space saving design, labor savings and compliance with the general stormwaterpermit requirements.

MINERALS TECHNOLOGIES

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