

Jay R. Smith Mfg. Co.'s Enviro-Flo Solves Arena's Unique Drainage Problem

All stadiums and arenas tend to get dirty, but an arena floor covered in dirt poses a unique problem. Keeping such an arena clean is the challenge that Scottsdale, AZ, faced when it decided to undertake a \$42.8-million expansion of the Tony Nelszen Equestrian Center at WestWorld—a challenge solved by an Enviro-Flo drain from Jay R. Smith Mfg. Co. In addition, the Enviro-Flo was easier to install than standard floor drains, resulting in cost savings.

The goal of the expansion project was to enclose the Equidome and introduce climate control. But the dirt floor means that during the course of a show, horses' hooves kick dirt up into the air that floats into the grandstand, covering the stadium seating and floors in a fine coat of dust.

One might think people in dirt houses shouldn't throw water, but that's exactly what the WestWorld Equidome Arena employees do after each show. Thanks to the ingenious use of the Enviro-Flo drain, it turns out hosing down the stands is the fastest and easiest way to clean up without creating a larger mess.

Avoiding a Mud Pit

The challenge was how to capture all the water coming out of 1-1/2" fire hoses used to wash down the stands, which was heading straight for the dirt floor of the arena. To avoid ending up with a mud pit, the arena needed a way to catch all that water and dirt and get it out of the seating area quickly.

Installing standard floor drains into the existing concrete structure would not do the trick. Not only would



By installing the Enviro-Flo drain from Jay R. Smith Mfg. Co. in Scottsdale's Equestrian Center, staff can hose down the seating area after events without worrying about the water flowing into the arena's dirt floor. The Enviro-Flo was easier to install than standard floor drains, saving time and money.

water have to be directed specifically to the drains, but also the drains would not get rid of the water fast enough. There was the potential for mud to build up and clog the drain, resulting in an overflow situation.

Instead, contractors installed a trench drain system around the entire perimeter of the arena at the bottom of the existing seating area. This system would allow WestWorld employees to hose down the stands from top to bottom and from any point in the grandstand. The Enviro-Flo from Jay R. Smith Mfg. Co. with a presloped (.6 percent) radius channel and smooth, uniform interior was selected to handle the high volume of water and dirt.

Water and dirt would flow down through the grandstand and go straight into the trench. The drains had the ability to deal with a rush of water and dirt moving down and out of the stands. The trench drains were able to capture the water and prevent it from reaching the dirt-covered arena.

Ease of Installation Reduces Costs

One reason for choosing the Enviro-Flo was the cost savings due to easier installation. The lightweight, 100-percent polypropylene construction, along with the Enviro-Loc® mechanical interlocking joint and molded

outlet connection, make the Enviro-Flo contractor-friendly.

The new Enviro-Flo II promises to improve on the already easy installation process. The Enviro-Flo II now includes the standard rebar anchors that contractors have come to love. Furthermore, the new Rante-Arrow design enhances the installation process by allowing for side-to-side adjustment of the trench drain run.

For jobs similar to the Equidome where the trench drains have to cover a lot of ground, the Enviro-Flo II will be available in 20-meter sloped and 20-meter non-sloped configurations. The tongue-in-groove connection will also speed up installation because it requires no screws or channel clips. The new channel insert, also made of post-industrial recycled material, can be easily removed by the contractor after the concrete is poured.

Durability, Choice of Colors Add to Benefits

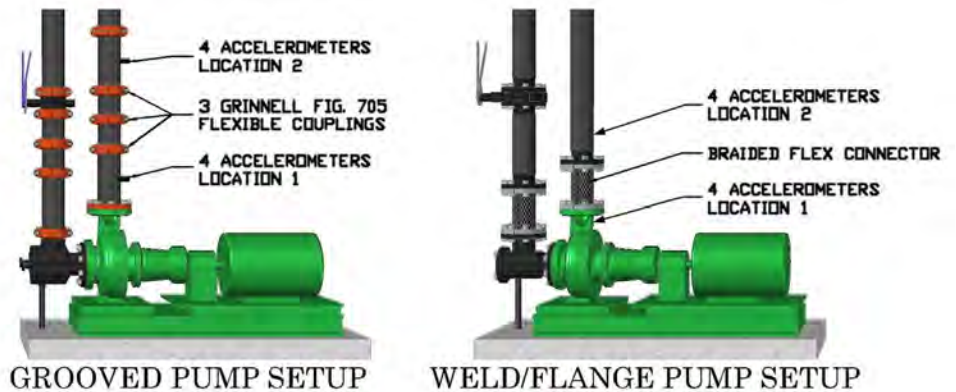
The Equidome project originally called for a fiberglass trench with a metal rail and cast iron grates in the horse stalls and wash-down areas. The Enviro-Flo with the poly grate was used there as well, because it would stand up to exposure to the water and

continued on next page

GRINNELL Grooved Couplings Provide Tight Seals Plus Noise Reduction

To address the challenge of vibration noise from pipes, GRINNELL Grooved Flexible Couplings reduce vibrations, minimizing the amount of noise distributed through a pipe system, while providing a tight seal to prevent leaks. In contrast, some elastomeric and braided metal flexible connectors designed to minimize vibration noise require you to install additional parts to pipe sections, perform extra welding, or add large, heavy flanges on pipe connections to accommodate the system's lack of flexibility. These methods complicate the piping system and increase the risk of leaks.

GRINNELL Grooved Couplings provide an alternative solution to "one-purpose-only" elastomeric or braided metal flexible connectors, which can require additional time and resources to mitigate vibration and sound attenuation. GRINNELL Couplings not only reduce noise but also use an elastomeric pressure-responsive gasket to seal pipe joints tightly and work within the housing of the GRINNELL Flexible Coupling. This design creates additional features within joined pipes that address angular deflection and axial and rotational movement.



In a battery of tests using a pump within the system as the source for vibrations, grooved couplings repeatedly demonstrated a generally higher degree of attenuation. On average, a single GRINNELL Grooved Coupling displayed the same impact on vibration and noise reduction as one braided metal flex connector, but GRINNELL Couplings performed better as vibration attenuators as the number of couplings in the system increased.

Evidence of Vibration Reduction

In tests, on average, a single GRINNELL Grooved Coupling displays the same impact on vibration and noise reduction as one braided metal flex connector. However, the coupling's advantage becomes evident in systems with multiple connectors. Consistently, GRINNELL Couplings performed better as vibration attenuators as the number of couplings in the system increases. They also performed better at higher frequency levels.

In other tests comparing GRINNELL Grooved Couplings, rubber flex connectors, and braided metal flex connectors, all three systems performed similarly. However, when numerous grooved couplings were installed, the GRINNELL Couplings maintained a strong, tight seal and reduced vibrations when up to three couplings per pipe were used.

The Core Benefits

Vibration attenuation is a known challenge for developing piping systems. The right connectors are critical for attenuating vibration in pipes and reducing the resulting noise transmitted throughout the building. GRINNELL Grooved Couplings have been used successfully to address both issues without inhibiting a complete seal when joining pipes. They are especially effective when three or more are installed across a section of pipe. Also, they can help resolve minor angular offsets, simplify installation, and eliminate the need for specialized vibration attenuation components. As a result, contractors save money.

JAY R. SMITH

continued from previous page

horse urine better than metal rail and cast iron grates, which would have rusted or deteriorated over time.

But this job wasn't only about the mechanics. Because the Equidome hosts some of the nation's most prestigious equestrian and other events, like the Barrett-Jackson Collector Car Auction, the City of Scottsdale also wanted a drain system that was aesthetically pleasing. The Enviro-Flo had an added advantage because it was available in a choice of colors.

The city chose a grey finish that blended in perfectly with the surrounding concrete.

Several events have taken place since the Enviro-Flo installation, and the drains are performing well as expected. Crews have been able to wash down the stands and the arena has stayed dry.

For more information, visit www.jrsmith.com.

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