

Airport Dust No Longer a Problem

THE contract developed by the City of Phoenix (Arizona) Aviation Department was recently completed for a dust control and soil stabilization project at two of their facilities. The contract was needed to achieve compliance for the recent EPA Federal Implementation Plan to control PM10 Fugitive Dust for Maricopa County. EarthCare Consultants, LLC. joined forces with M. Anderson Construction Corp. and Southern Arizona Paving & Construction Co. to complete the 1.7 million sq project in less than 60 days.

Soil-Sement®, manufactured by Midwest Industrial Supply, Inc., was the only copolymer product to meet environmental criteria for water quality and runoff. Disturbed areas that were treated included runway shoulders, infields, parking lots and vacant lots. Airports treated were Goodyear Airport and Phoenix Sky Harbor, both managed by the City of Phoenix Aviation Department.

The project entailed several phases of treating disturbed areas with topical and blended applications of the copolymer. Disturbed areas that would not receive traffic or direct jet blast were treated with topical applications of the copolymer. Areas receiving vehicular traffic or direct jet blast were treated with a blended application of the copolymer, entrained into six inches of the

existing soil.

The topical applications of the copolymer were performed with computerized distributor trucks. The application procedure of the product for both application methods was specified by EarthCare Consultants, LLC. and Midwest Industrial Supply, Inc.

The blended applications on the traffic and jet blast areas were treated utilizing graders, pneumatic and steel wheel rollers. The areas treated were loosened utilizing the grader rippers. The loose soil was then treated with Soil-Sement® and mixed a minimum of three times with the grader blades to ensure a thorough mixture of soil and copolymer at the rates specified.

One of the areas treated with the six-inch, blade-mixed application method was the infield at Bravo 11 at Phoenix Sky Harbor Airport. In this area, jet blast from British Airlines 747s was shooting debris off the infield on to runway areas. Another area treated was the dirt vacant lots just north of the Sky Harbor Airport along Airline Road, East of 40th Street. Hundreds of cars and heavy trucks use this location daily to view planes take off and land.

Once a homogenous blend of the copolymer was achieved in the soil, the graders then leveled out the surface. The graded soil was compacted with pneumatic and steel wheel rollers to maximum density

and compaction to create a hard, yet resilient, surface.

Finally, a topical application of the copolymer was applied using both distributor trucks and manual spray. This final topical application insures a contiguous bond of the surface soil with the stabilized soil underneath.

Since completion of the project, the areas treated have failed to generate any fugitive dust, keeping both airports in compliance with Federal and Local Air Quality regulations. Military helicopter maneuvers at the Goodyear Airport failed to generate any fugitive dust, proving successful stabilization and dust control there.

In April of 1999, Scott Ghee, Pavement Management Specialist with the City of Phoenix Aviation Department, completed an inspection of the areas treated with the copolymer. He said, "We are satisfied with the overall performance and believe the entire dust control project was a success. The acrylic polymer used for dust suppression and soil stabilization is an environmentally safe, polymer emulsion that produced an effective control of dust and erosion.

"We would like to thank the various City of Phoenix disciplines and contractors that made it possible for us to complete this massive project on schedule and under budget," said Ghee.

"The applications for dust control and soil stabilization have exceeded the 12 month warranty period, and most are still performing after 18 months," said Marty Koether of EarthCare Consultants, LLC.

The dust control/stabilization project will not only continue to provide dust control; the stabilized soil will also limit erosion and the transfer of sediment from these areas caused by seasonal rain. **L&W**

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