

SUSTAINABLE SITE CLOSURE - 74 ACRE SITE

Mountain Vista Marketplace, City of Mesa, AZ

Project Developer: DeBartolo Development Group - Scottsdale, Arizona

Site location: City of Mesa Arizona NW corner of E Southern Ave & Signal Butte Road. Site is bounded on the south by Highway 60 (the Superstition Freeway).

Agency oversight: City of Mesa, Maricopa County and State of Arizona DEQ

Project Engineers: Sustainability Engineering Group, LLC, Scottsdale, Arizona
MJD Associates, Chandler, Arizona

Soil Classification Testing: Kleinfelder Inc., Tempe, Arizona

Stabilization Product Technology: **EMC SQUARED**® Stabilizer (1000)

In Fall of 2008 the project owner was faced with a multi-year site closure requirement for their 74 acre graded construction site for a development that was to be known as Mountain Vista Marketplace when the anchor tenant opted to delay construction of their big box store for at least several years. Faced with an annual cost of approximately \$200,000.00 to spray apply dust control products to satisfy city, state SWPPP and Maricopa County permit requirements, the owner decided to spread a single treatment of EMC SQUARED System stabilizer product to provide long-term closure at an installed cost similar to that of a single dust control product application. While the owner did not anticipate that the site would still be vacant eleven years



later, by selecting the soil stabilization option they have realized a cost savings of about 2 million dollars over this period of time. As evidenced in the pictures on the pages that follow, five years after the non-toxic stabilization treatment was applied, a limited amount of natural re-vegetation began to take place. The photographs of the project taken in 2015 and 2019 show that almost the entire site is now stabilized with natural vegetation, providing an attractive landscape for neighbors to enjoy until the site is developed at some future date.

74 ACRES OF BARE EARTH PRIOR TO APPLICATION OF EMC SQUARED SYSTEM STABILIZATION TREATMENT

(photo credit DeBartolo website)

(photo credit MJD Engineering)



INSTALLING THE EMC SQUARED STABILIZER, NOVEMBER 2008

The installation work took just twelve days and was completed in November of 2008. The total area of 74 acres was treated 4-inches (4") deep by one crew, using a water truck, motor grader, tractor-drawn plow disc with gauge wheels to control depth and two compaction units (rubber tired roller and a smooth steel-faced vibratory compactor). Note the tractor pulled disc plow working in the picture above. In the background, left side of the following picture, the water truck can be seen spraying the EMC SQUARED Stabilizer while the disc mixes, the motor grader shapes and the compaction units provide the energy to bring the treated layer up to project specifications of 95% of ASTM D-1557 density. The end result was a strong, water-resistant soil layer that has handled limited traffic, while retarding dust, water, and wind erosion. The goal of working in a sustainable manner was satisfied because the EMC SQUARED Stabilizer approach required just one application to control fugitive dust rather than many.

(photo credit MJD Engineering)



INSTALLING THE EMC SQUARED STABILIZER, NOVEMBER 2008

As of March 2019, the stabilized site has survived ten (10) monsoon seasons without need for an additional soil stabilization treatment or requirement for application of dust control products.

2008 - TOP 4" NATIVE SOIL IN PROCESS OF BEING STABILIZED WITH EMC SQUARED SYSTEM TREATMENT



2019 - STABILIZED SOIL AND VEGETATIVE COVER



Site history over time (Google Earth Image dates are visible in the upper left corner of each image)

November 2005 - Prior to site development



(photo credit - Google Earth)

March 2010 - Stabilized Construction Site Surrounding Apartment Complex



(photo credit - Google Earth)

Site history over time (Google Earth Image dates are visible in the upper left corner of each image)

January 2014 - Five Years After Stabilization



(photo credit - Google Earth)

March 2015 - Six-and-a-half Years After Stabilization



(photo credit - Google Earth)

Looking south from East Hampton Avenue - June 2015



Close up of area

(photo credits - SSPCo)

March, 2019



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