How to Stabilize Clay

By using chemical stabilization

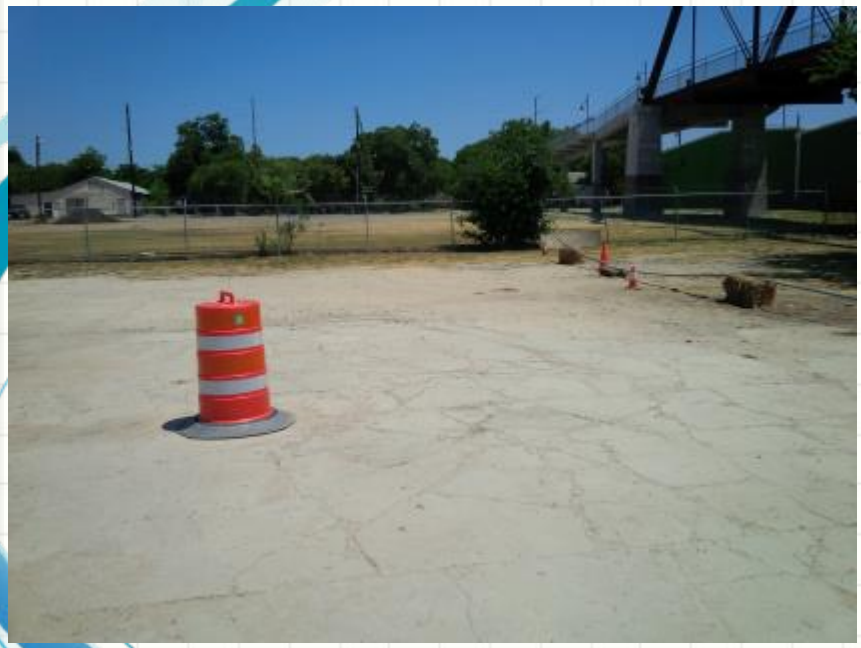
Objectives

- To use Texas Gumbo Clay as a construction material.
- Soilbinder allows stabilizing the expansion of clay soils.
- To demonstrate how expansive soils chemically stabilized become impervious to water while increasing structural integrity.

Alamo Beer Company San Antonio TX

Existing Site Conditions

Concrete slab to be milled and removed



Quantities

Dimensions

- Length: 250 feet
- Width: 320 feet
- Area: 80,000 SF
- Depth to be treated: 10”
- Volume: 2,467 CY

Materials

- Clay: 5,920 CY
- Stabilizer: 6 drums
- Water: 12,000 gallons
- LKD: 120 tons

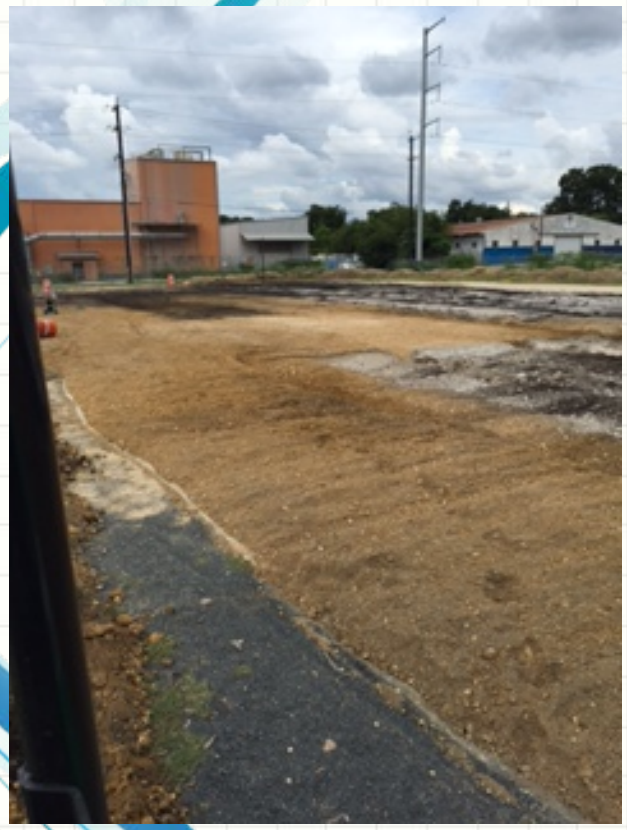
Construction

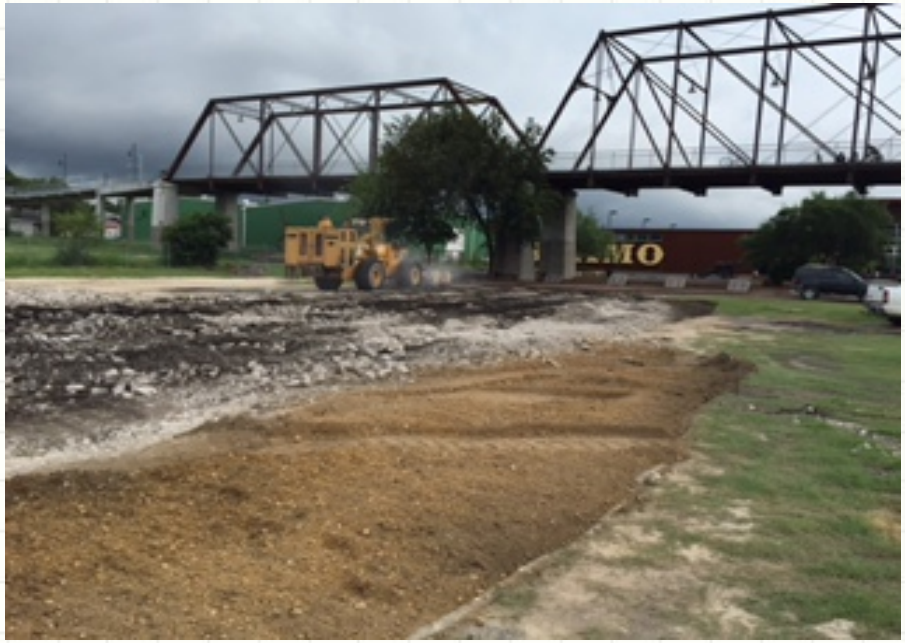
Construction Steps

1. • Removal of concrete slab & any other under ground obstructions
2. • Stabilization process
3. • Paving and Striping

Milling of concrete slab

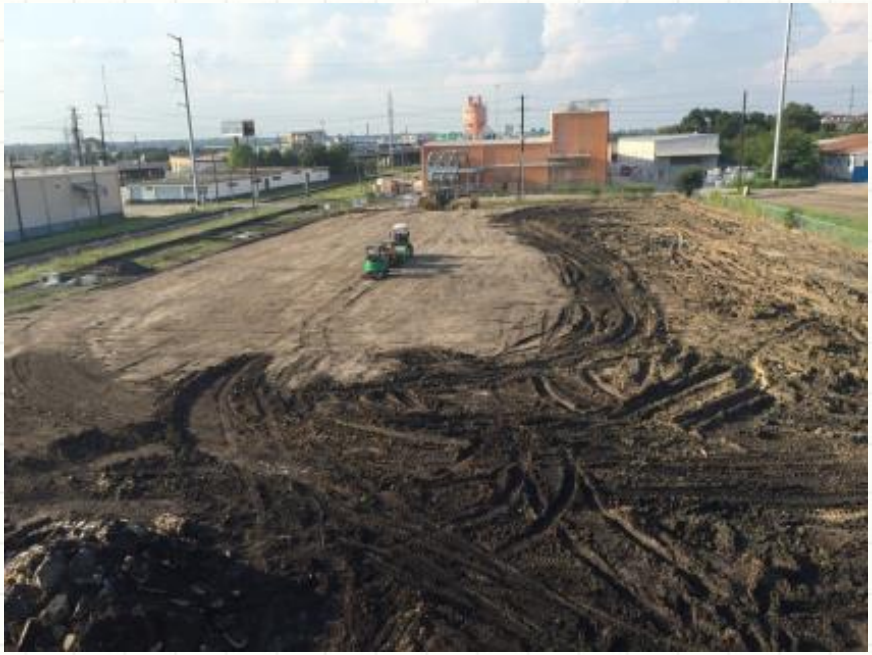
Removal and disposal of concrete and underground obstructions





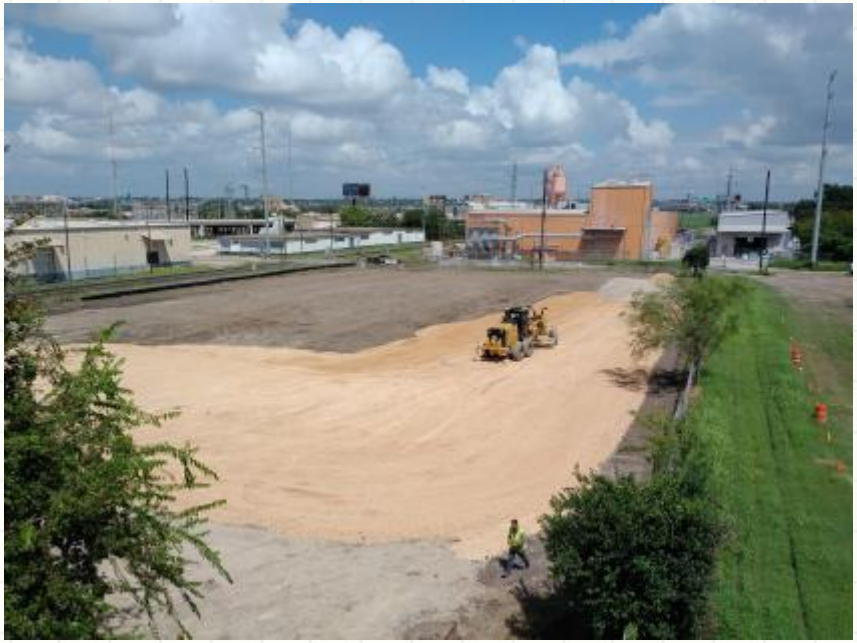
Imported Fill Material To Reach Designed Grade

Gumbo clay from nearby construction sites was hauled in



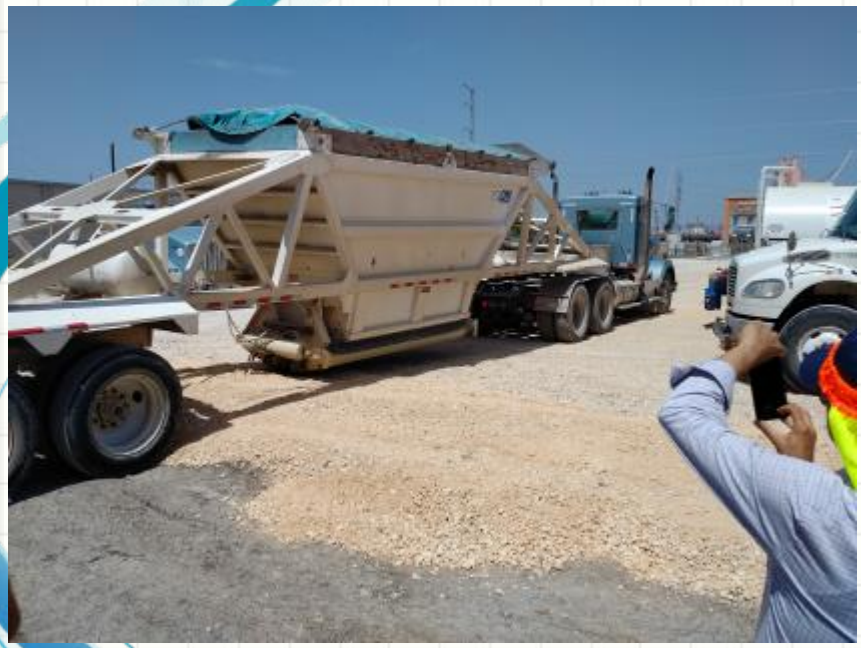
Imported Material

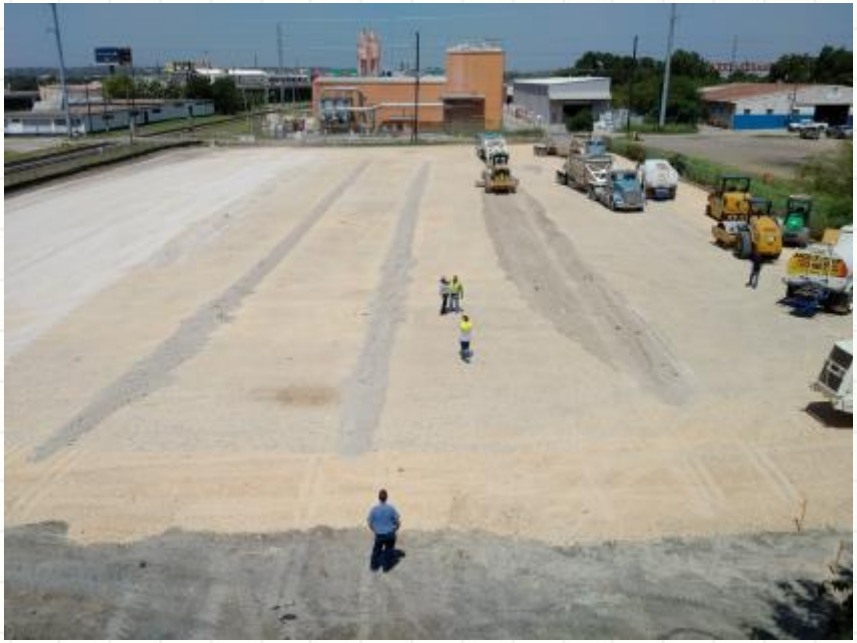
#2 Base Material with 1 ¾” Rock to Amend Clay



Stabilization Process

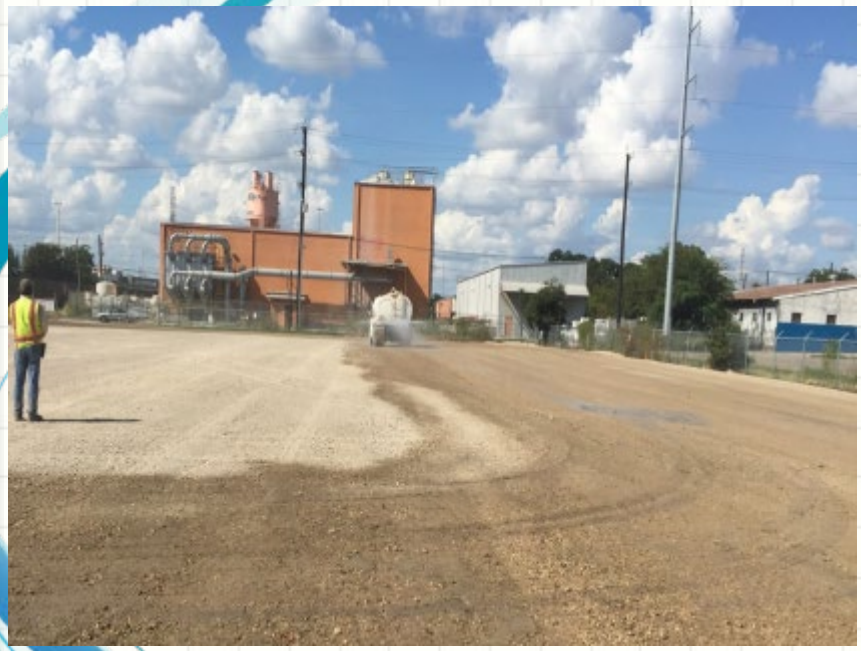
Cement Kiln Dust spread at 4% dry weight of soil

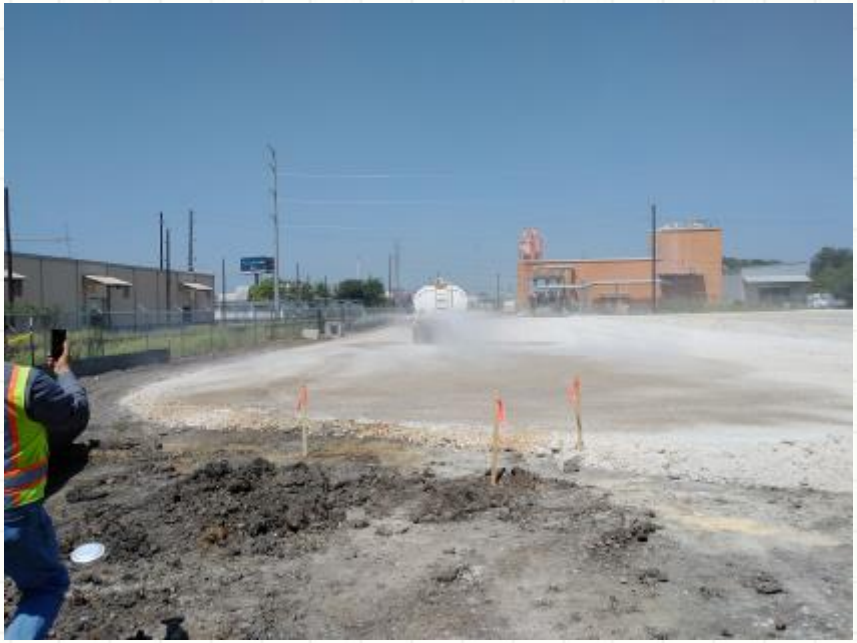




Stabilization Process

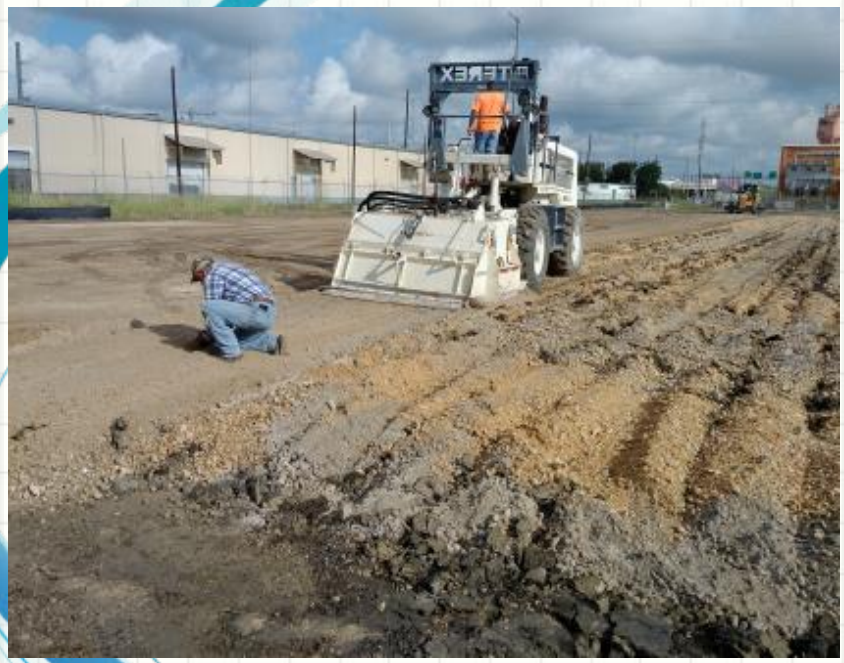
SoilBinder solution and application over soil and CKD

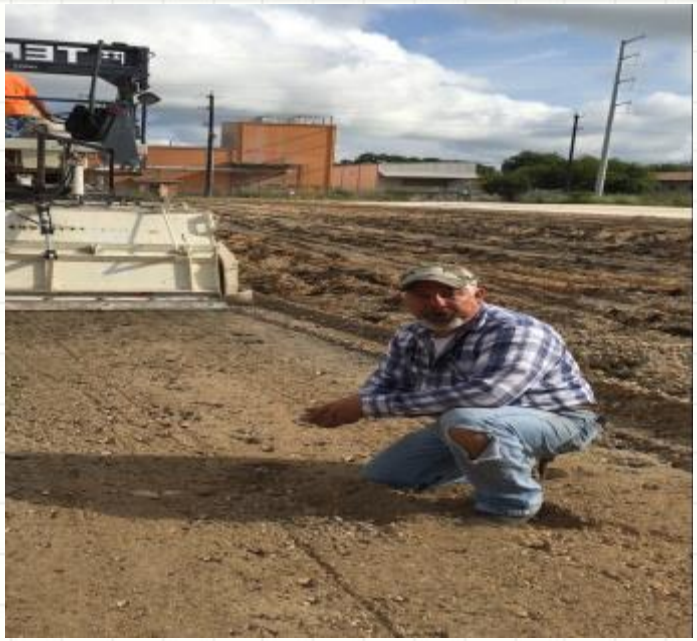




Stabilization Process

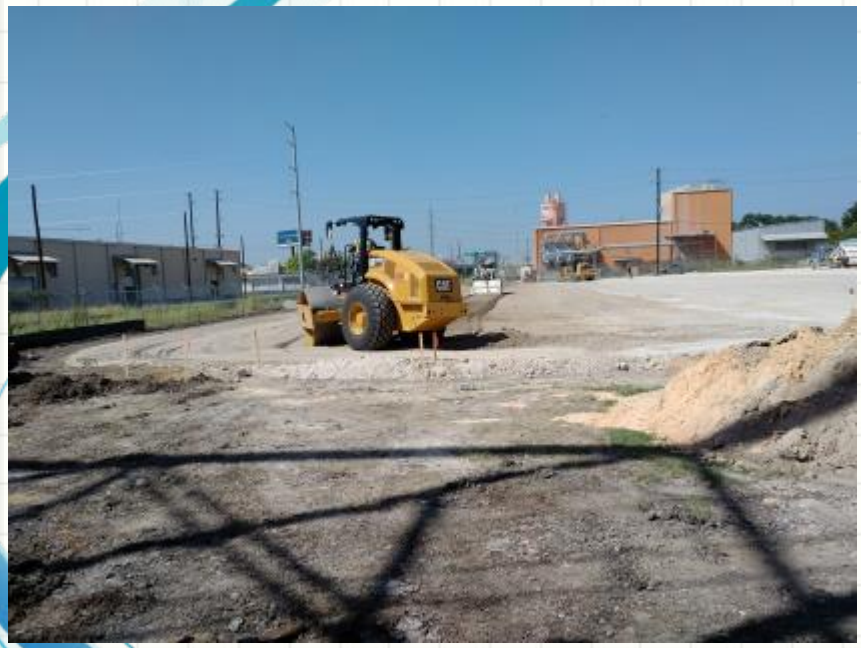
Reclaimer mixing together clay soil, CKD and Stabilizer

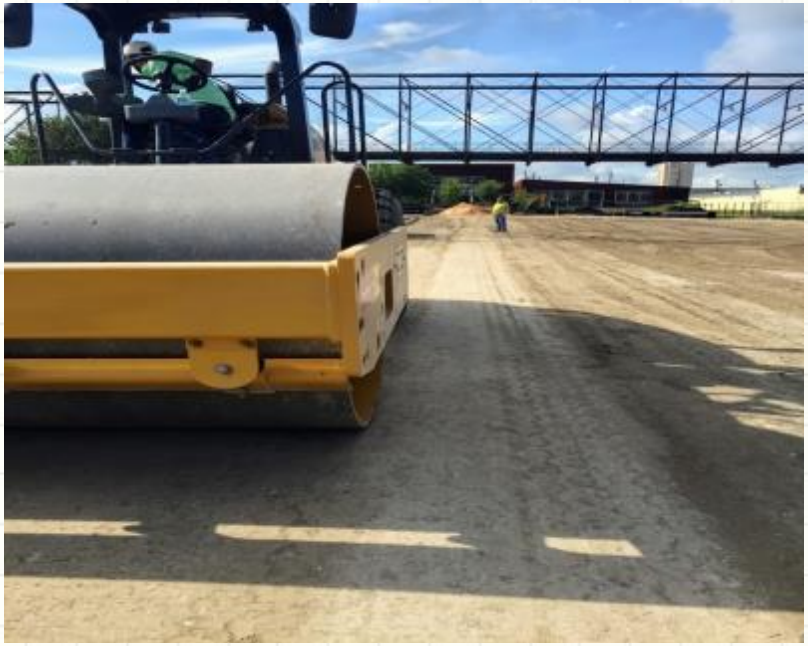




Stabilization Process

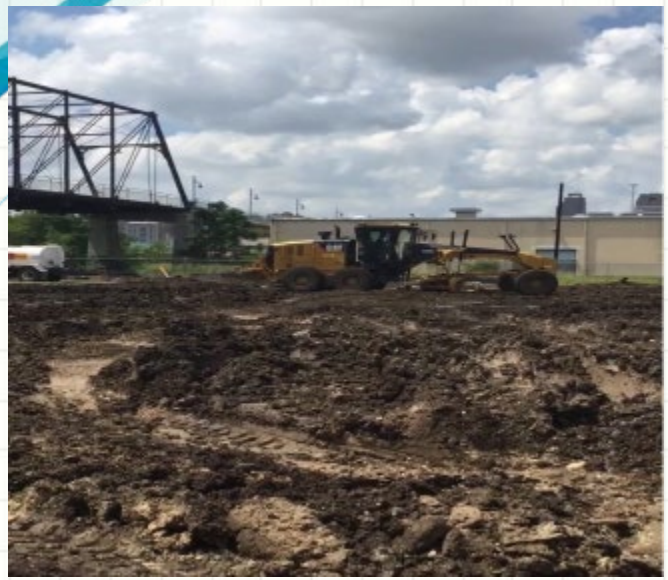
Vibratory compaction using Steel wheel

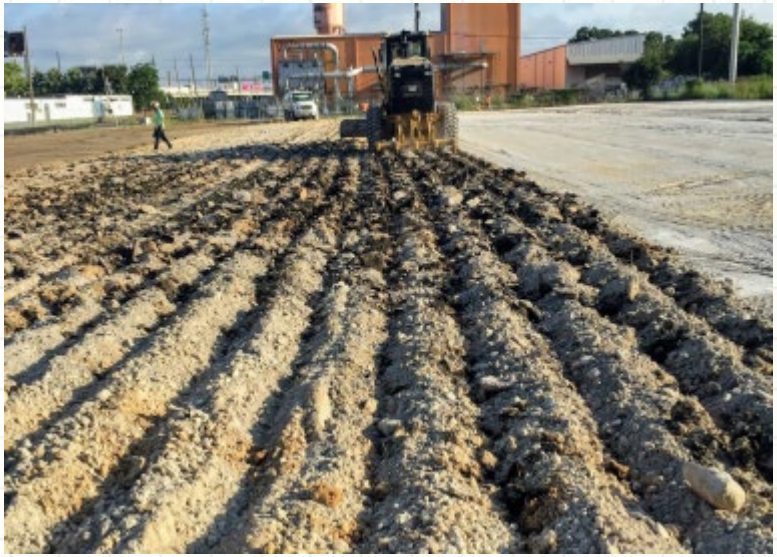




Stabilization Process

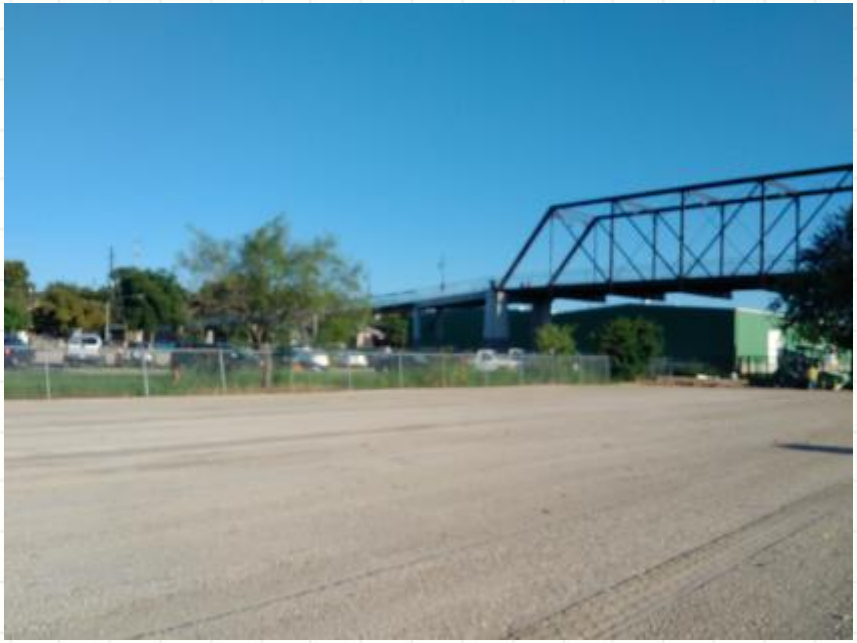
Grading to final lines and elevation





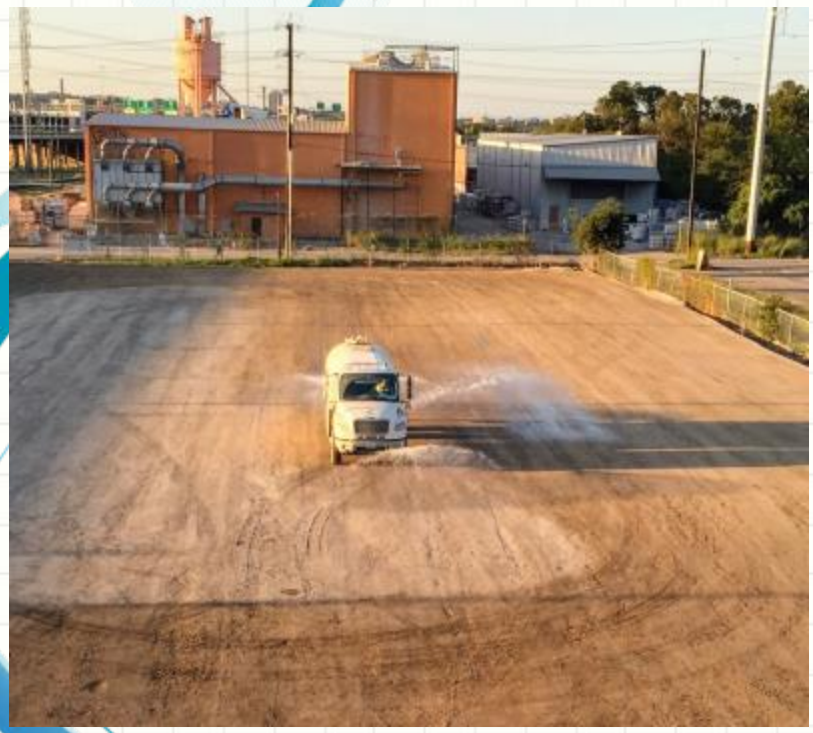
Stabilization Process

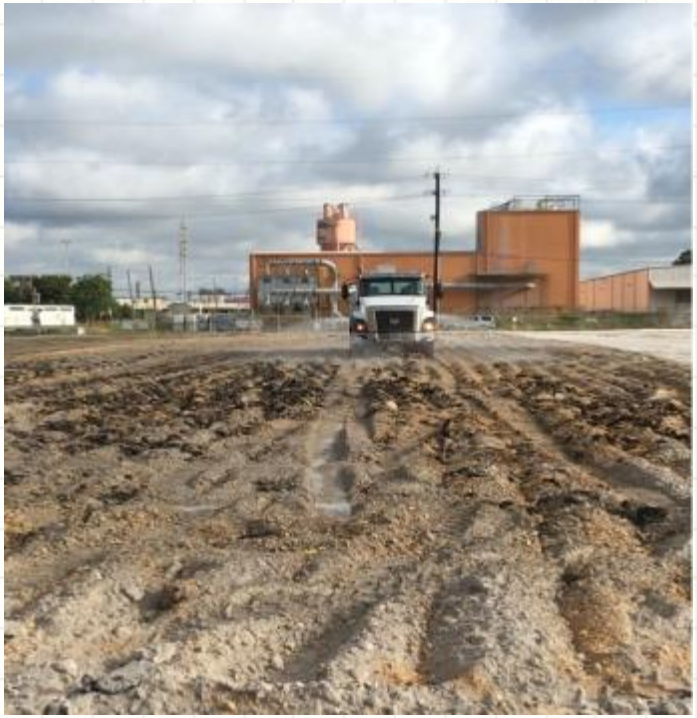
Sealing with Pneumatic compactor



Stabilization Process

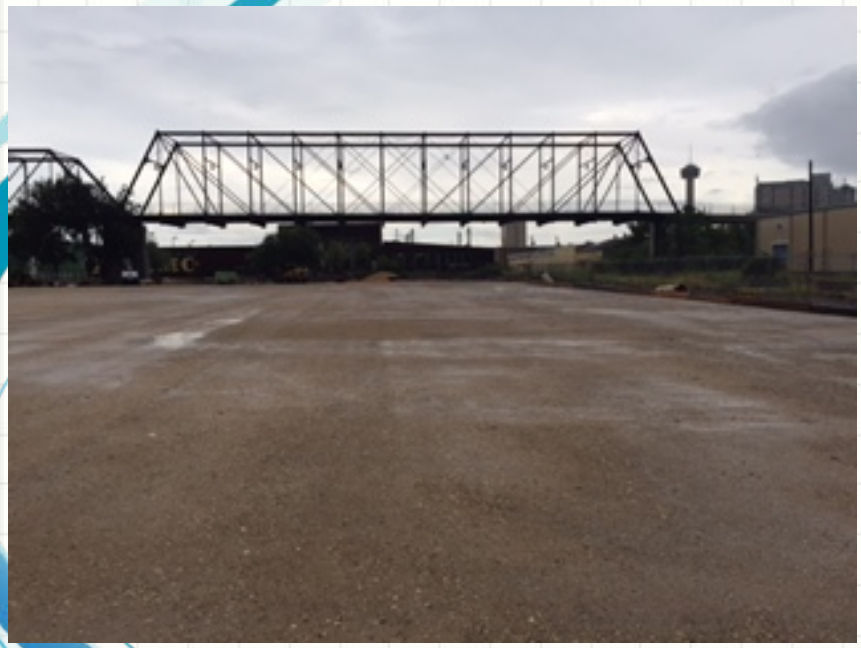
Hydration with water for curing

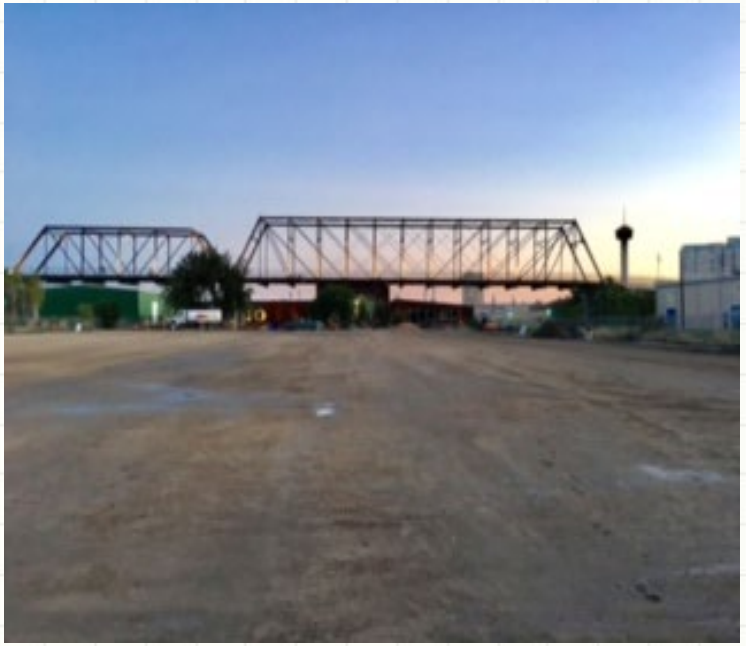




Stabilization Process

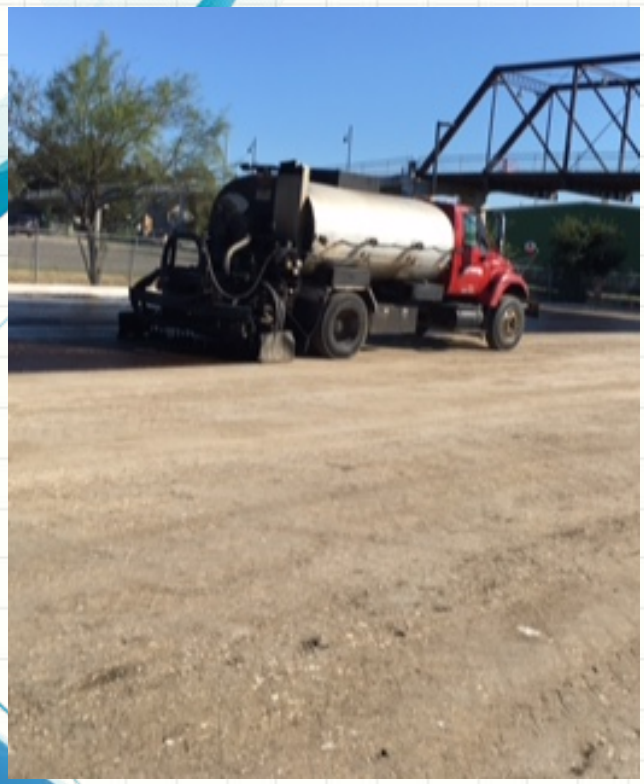
After Three weeks of periodic heavy rains

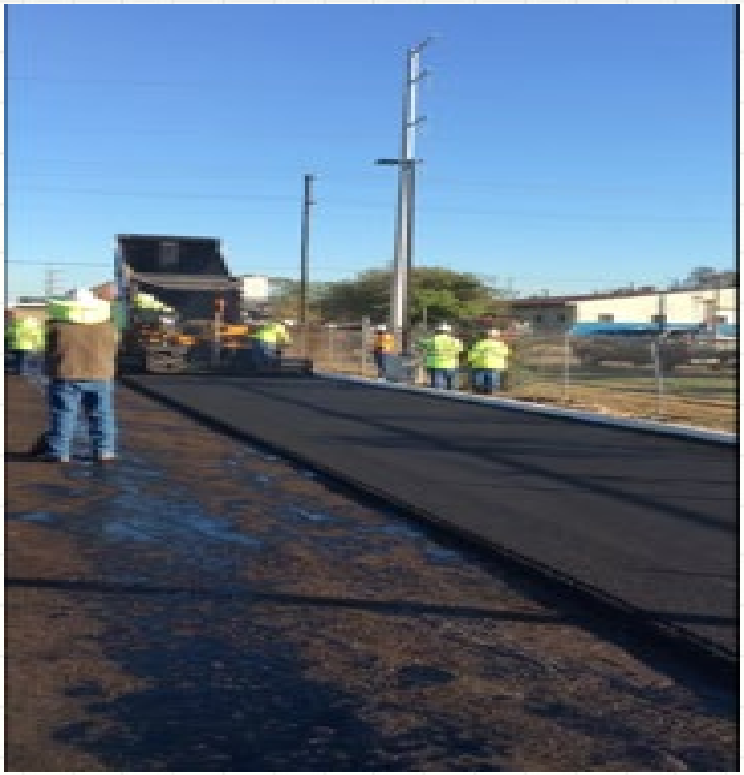




Prime Coat / Asphalting

Prime and Asphalt Installation





Finalized Job

Striping & Parking Lot Completion