

In Starkville, MS, a two year old Big Box Retail Store was already experiencing widespread cracking and heaving in the parking lot and significant cracks in the exterior walls. Carlson Consulting Engineers was hired as the lead professional on the project to determine the cause of the issue and create a plan for solving it. CCE retained the services of a regional geotechnical firm that completed several borings within the most damaged areas of the site and found that the parking lot was underlain by highly expansive clays. It was concluded that the original construction documents didn't provide for the necessary buffer of the expansive clay under the parking lot or the building pad. Due to the on-going maintenance and operational problems the expansive clay had caused on the relatively new store, the client elected to remove all the pavement from the site and undercut 3' of the expansive clay from under the parking lot and 7' of the clay adjacent to the building walls. Carlson Consulting Engineers prepared all the plans and specifications for the project and handled all the necessary permitting. The most challenging task for CCE was to provide detailed phasing plans that allowed the store to continue to function as a high volume retail center throughout all phases of the demolition and clay removal. By working in one section at a time, the expansive clay was minimized and replaced with a non-expansive material that would prevent further heaving issues.

