



Expanded Shale, Clay and Slate Institute
Rotary Kiln Structural Lightweight Aggregate

UDOT Mountain View Corridor Bridge Deck (Salt Lake City, UT)



OWNER	UDOT
GENERAL CONTRACTOR	Copper Hills Contractors Utah
LIGHTWEIGHT SUPPLIER	Utelite Corporation Utah
READY MIX SUPPLIER	Alta View Concrete, UT Utah
PROJECT LOCATION	West Jordan, UT
RESEARCH INSTITUTION	Brigham Young University Provo, UT
1 st Deck Placed	April 10, 2012
2 nd Deck Placed	April 25, 2012
3 rd Deck Placed	May 1, 2012
4 th Deck Placed	May 3, 2012

UDOT commissioned the Department of Civil and Environmental Engineering at Brigham Young University at Provo, UT to study the effects of internal curing and moisture content of “normal weight” concrete bridge decks for short- and long-term properties and performance of the structure. In this research, two decks were constructed with conventional concrete and two decks were constructed with concrete containing pre-saturated lightweight fine aggregate. Each deck contained three embedded sensors to measure moisture content, electrical conductivity and temperature. Ambient air and relative humidity sensors will also be placed at each bridge site. Automated data collection from sensors are anticipated for a two-year study period. Compressive strength and rapid chloride permeability testing will also be performed on cylinders from each deck. Deck distress surveys will be performed on the decks to evaluate cracking.