



ACAA

Beneficial Use Case Study

One Light Tower

Coal Combustion Product Type

Class C Fly Ash

Project Location

Kansas City, Missouri

Project Participants

Humphreys & Partners Architects LP, Taliaferro & Browne Inc., Talon Concrete, Kansas City Fly Ash, Kansas City Power & Light

Project Completion Date

December 2015

Project Summary

One Light Tower is a 25-story luxury residential high-rise located in downtown Kansas City, Missouri. The building comprises 311 apartments, all of which have floor-to-ceiling glass. Various floor plans range in size from 590 to 1379 ft² and include the following: studio apartments, one- and two-bedroom apartments, and 24 penthouse units on upper floors. One Light Tower also offers residents a rooftop pool, 2500 ft² of retail space, fireside lounges, and an on-site theater.

Project Description

One Light Tower was completed in December 2015 using 13,205 yd³ of concrete and 789.4 tons of fly ash. Design

engineers employed 16 different mixture designs to meet the structural requirements. The fly ash content in these mixtures ranged from 78 to 308 lbs. per yd³. The concrete strength requirements in these mixtures ranged from 4000 to 8000 psi.

Kansas City Fly Ash and its utility partner Kansas City Power & Light supplied all of the fly ash on this project, which was produced locally and comprised Class C fly ash generated from burning Powder River Basin coal. Talon Concrete's Bunker plant was ideally located to provide timely service and quality concrete to meet an aggressive construction schedule. Talon QA/QC personnel provided real-time expertise to control concrete properties and avoid any quality issues that would have negatively impacted the construction schedule.

The completion of One Light Tower is an example of the revitalization of downtown Kansas City, which has seen a rebirth over the last 15 years. Kansas City now boasts a vibrant downtown area with entertainment, new housing options, restaurants, and a grocery store. Rental occupancy is approximately 99% downtown, and new construction continues to meet this demand.

The success of the One Light project is now being followed up with the construction of Two Light Tower. Talon Concrete is again supplying concrete for the new luxury high-rise using local fly ash.

