For Immediate Release

Contact: Julie Garbini
703-706-4850
jgarbini@concreteadvancement.org

New Study Available from the RMC Research & Education Foundation: Simulation-based Investigation of the Performance of Low-rise Concrete Walls with Low Reinforcement Ratios

Alexandria, VA – February 11, 2022: The RMC Research & Education Foundation is proud to release a new study titled, "Simulation-based Investigation of the Performance of Low-rise Concrete Walls with Low Reinforcement Ratios." The study was performed by researchers at the University of Washington.

The report, available here, presents the findings of a simulation-based investigation of low-rise, lightly-reinforced concrete walls to identify opportunities for achieving performance requirements while using less and more widely spaced steel reinforcement than is currently allowed by the ACI Code. The study represents a first step toward re-evaluation of the ACI Code and standards for lightly-loaded concrete bearing walls. The intended audience includes researchers, industry professionals, and individuals charged with advancing design codes and standards. "Once combined with experimental data, we believe this study will help provide the basis for important changes to ACI 318 Code requirements," say lead researchers Dr. Dawn Lehman and Dr. Laura Lowes.

Lightly-reinforced concrete walls, including insulated concrete formwork (ICF) walls, are used commonly for residential and low-rise construction. ICF construction can be advantageous because the insulating formwork provides a higher level of insulation than traditional construction and results in greater energy efficiency. A primary cost of low-rise reinforced concrete and ICF construction is placement of reinforcing steel. In regions of low-to-moderate seismicity, ACI 318 Code requirements for minimum reinforcement, rather than design loads, typically determine the volume of reinforcement that is required. "Reducing reinforcement requirements for low-rise walls in regions of low to moderate seismicity would provide both cost and sustainability benefits for reinforced concrete wall construction," says Dr. Scott Campbell, Senior Vice President of Structures and Codes for the National Ready Mixed Concrete Association (NRMCA). Campbell served as technical reviewer for the research report.

RMC Research & Education Foundation 2022 Chairman Rodney Grogan, Chairman of MMC Materials, adds, "The Foundation's mission includes improving quality and sustainability in the concrete industry. Reducing our embodied carbon impacts through optimized design and making the energy advantages of ICF construction more financially accessible are

right in line with that mission. We're pleased to make this important research available to influencers of the ACI Code."

The vision of the RMC Research & Education Foundation is to be a lasting resource for increasing quality, professionalism and sustainability in the ready mixed concrete industry by funding and implementing research and education programs. For more information on the Foundation's research and activities visit our website.