

CE 295 - RESEARCH SEMINARS in STRUCTURAL & GEOTECHNICAL ENGINEERING

CNCA Cellular Concrete and Roller Compacted Concrete

Date: Thursday, May 15th, 2014

Time: 4:00 – 4:50 pm

Room: EG - 3161

Guest Speaker: Jeff Wykoff



Typical flowing LCC backfill



Placing RCC at Olivenhain Dam

Cellular concrete has various mix designs, but most replace all aggregate with air bubbles. The bubbles can be closed cell (impervious) or open cell (pervious). The light unit weight and high strength make this an attractive replacement for soil in embankments and other fills on soft soil. LCC backfill is easier

and faster for pipelines and other utilities while improving worker safety and project schedules. LCC is also easy to excavate. Typical unit weights are 30 to 40 pcf so it floats.

Roller Compacted Concrete (RCC) is a common choice for new dams and spillways, raising existing concrete dams, and as a paving material. RCC is unreinforced zero-slump mass concrete or pavement. Aggregates for RCC dams are usually taken from sources at the dam site. Pavements require more gradation control and hence use mined aggregates similar to asphalt. Engineering, Material, and Construction considerations for Lightweight Cellular Concrete (LCC) and Roller Compacted Concrete (RCC) are presented.

Jeff Wykoff is licensed as a Civil Engineer in California and as Civil or Structural or Professional Engineer in 4 other states. He is a member of ASCE, SEAOC (Structural Engineers Association Of California) and Cal-Geo (California Geotechnical Engineering Assn.) He currently works as Manager of the California Nevada Cement Association Engineered Applications Division. He serves as a resource for infrastructure owners, engineers, and contractors by providing technical expertise, education, industry resources, and budget cost assistance where project teams can take advantage of the versatility of cement.

The California Nevada Cement Association provides technical resources and education opportunities for a variety of cement-based solutions. CNCA is an affiliate of the PCA (Portland Cement Assn.) Member companies are cement producers and shippers in these two states.

