

## **Category 7 - Best Building Project - Specialty Contractor (Over \$10 Million)**

**Contractor: Encore Electric**

**Project Name: UCCS Visual and Performing Arts Center**

Modern job sites are far from the chaotic tangle of logistics, manpower and trades found previously. In 2018, jobsites need to work together like a symphony, with every note in harmony. Like a great piece of art, every single portion of a jobsite needs to be in its place to form a cohesive whole. The Ent Center for the Arts, also known by its working project name of the UCCS Visual and Performing Arts Center, built by general contractor JE Dunn with electrical work completed by Encore Electric for the University of Colorado - Colorado Springs, stands as an example of what trades working in harmony can create for a project owner.

The new 92,000 square foot center features various performance spaces, labs, classrooms, office space and recording spaces and studios, including four theaters: a 774-seat theater and concert hall, a 245-seat recital hall, and two other theaters designed for smaller shows. In addition to providing the electrical specialty contracting, Encore Electric's Technology Solutions group provided many of the technological innovations, along with our subcontractors. Encore Electric had craftsmen on the job for 26 months.

Prior to becoming the UCCS Ent Center for the Arts, it was a collection of thoughts, dreams and goals of a very passionate group of UCCS educators, administrators and local Colorado Springs supporters of the Arts. All of the theaters, recital halls, training spaces and administrative offices and support spaces needed to be under one roof, with all venues connected by a flowing, two-story lobby. It was designed so that no sounds would transfer from one venue to any adjacent or adjoining venue or room. Encore Electric's main and constant challenge was to build their elaborate vision to very exacting standards, safely and on-time.

The Shockley Zalabak Theatre is the main performance space, and has many features that relied on the expertise of Encore Electric employees. The Dusty Loo Bon Vivant Theatre is a multi-level theatre with a hidden basement, or trap room, "Black Box"-style venue that provides the audience and production managers an opportunity to experience and present performances in a wide variety of settings. The Chapman Foundation Recital Hall features an inductive loop

assisted listening system within the concrete floor, an amazing technological tool that will help assist those hard of hearing to enjoy the music performed by the artists. Finally, the Marie Walsh Sharpe Gallery of Contemporary Arts has specially designed lighting to accommodate and accentuate artwork in a solo or multiple artist event. All of the Theatre and Performance venues feature Audio and Video connections to an advanced recording studio for the recording, mixing and broadcasting of live performances. The building now houses all of the performing arts on campus, whereas they used to be in six different locations!

Encore Electric constructed all normal power and emergency power and lighting electrical systems, fire alarm, performance audio visual, LED Theatrical DMX lighting and control, telephone and data, access control and CCTV systems. Each venue features cutting edge, yet classic design and a wealth of the latest technical equipment and systems, and incorporating them invisibly into such a beautiful space was a monumental challenge.

From an innovation standpoint, the Ent Center for the Arts was designed to meet many technical challenges required for the programming and aesthetic form of the building. The roof system was designed to support the catwalks, rigging, acoustical elements and lighting with tight deflection requirements to limit the amount of movement during performances. The main theater cantilevered balcony was designed for stiffness and vibration criteria to limit the perception of movement during performances. The corridors and public areas floor framing outside of the performance halls were also designed to limit floor vibrations. Both the Recital hall and Main Theater have variable acoustical baffles for tuning of the spaces to each type of performance. The exterior of the building features aesthetically pleasing lighting techniques that are also functional, as they provide increased illumination for what has traditionally been a darker part of campus. This lighting provides a reassuring feel for patrons, students or faculty who may be returning to their vehicles after night fall.

One of the main difficulties our team encountered, both in the design and construction, was routing over 43 miles of conduit. Our team was faced with building a conduit network for all of these systems that was required or envisioned to all be concealed within curved architectural walls or perforated, spring isolated acoustical hard lid ceilings.

While that alone is not an atypical issue in construction, the conduit routing was strictly governed by the acoustic (NC ratings) properties of each venue, the physical separation requirements for the multitude of AC and DC voltages, the network, A/V and theatrical lighting data cabling, ensuring the length parameters were not exceeded, and ultimately, by the HVAC supply and return air ducts that were required by the acoustical engineer to be oversized for noise reduction. Our team recognized this challenge very early and by building a very detailed BIM coordination and 3D model we were able to overcome this obstacle and use these details and our BIM model to build a very successful project. Few other performing arts facilities in the region combine so many different types of performing arts venues and arts education spaces under the same roof.

In any performing arts environment, it's a challenge to balance or integrate front of house lighting and controls with theatrical environs; they are two entirely distinct areas that need to function seamlessly together. In the case of the Ent Center, these challenges were compounded by the fact that there wasn't just one performing arts venue, there were several and each had fairly different operating requirements. Add the complexity of Audio Visual systems - and the required separations for A/V cabling - the coordination requirements were monumental. Encore Electric was challenged with taking an extremely complex set of drawings, specifications and plans and not only making them come to fruition, but making them cost-effective on a tight schedule. This necessitated innovating every single day.

Encore utilized REVIT 2016 to draw each of the different system's conduit, individually identified them and ultimately assigned them a color to provide a clear visual Quality Control check that all system conduit requirements were being maintained. Once all of the routing above ceiling and below ground was established, Encore had custom conduit support racks made from a "slice" or cut view of the conduit routing. This prevented any inadvertent conduit placements and ensured that the AV systems did not have noise from the microphone on the speaker lines or that a DMX lighting universe was not getting interference from a 480V Theatrical Rigging motor circuit.

Encore Electric is committed to a complete culture of safety. From our senior management to our new apprentices, every employee is a safety advocate responsible for maintaining safe work environments. Our culture of safety is shown in Encore Electric's strong safety record, which is consistently better than the electrical industry as provided by the Bureau of Labor Statistics. There were 56,951 hours worked by Encore Electricians. There was one recordable accident on the project, a finger cut.

Without a doubt, this project will be a huge benefit to multiple stakeholders in the Colorado Springs community. Not only does the University of Colorado - Colorado Springs get a beautiful, functional building for its students and faculty, but the community has a great new space to enjoy the arts in Northwest Colorado Springs.

The continued expansion of the University will also benefit the community as a whole, as educational opportunities continue to develop in this part of the Front Range. Attracting a higher number of students will have ripple effects throughout the city's local economy. A project like the Ent Center for the Arts can't just be built - it needs to be perfect. To that end, we innovated in engaging the minds of our employees and partner vendors. We held weekly research Q&A challenges for our entire team that were based on understanding the "why" and "how" of the technology for each of the systems we were installing that week.

That hard work was recognized, too. Recently, Engineering News-Record Mountain States selected Encore Electric to receive a Best Project Award for Specialty Contracting in the states of Colorado, Wyoming, South Dakota and North Dakota for our work on the Visual and Performing Arts Center.

Encore Electric is dedicated to finding the right blend of value and cutting-edge technology for each project. At the Ent Center for the Arts, state-of-the-art lighting, techniques and products combined to allow our craftsmen to deliver the project on-time and on-budget. Large windows on the exterior that allow plentiful sunlight to come through and light the interior spaces. The facility has achieved such high energy efficiency marks, in fact, that it was named a LEED Gold Certified building.









