

## **U.S. Air Force Academy - Arnold Hall**

### **Best Building Project – Specialty Contractor (Under \$2 Million)**

Fields, cattle and sporadic thickets of trees are slowly being replaced by the expanding city of Colorado Springs along the I-25 corridor heading north towards Denver. Among this quickly changing terrain sits the U.S. Air Force Academy, a national landmark since the 1950's. This institution, though enduring, is anything but static. As of December 2015 one of the newest and largest renovations to the campus was completed: The Center for Character and Leadership Development building, a 45,000 square-foot shining beacon in the shape of an airplane wing made of glass and steel, can be seen rising up from the sprawling landscape. Commonly referred to as the CCLD, the Center for Character and Leadership's mission is to "advance the understanding, practice and integration of character and leadership development in preparation for service to the nation in the profession of arms" ([www.usafa.edu](http://www.usafa.edu)). It was no small honor for ISEC, Inc. to be awarded the Architectural Woodwork scope on the project, as Integrity is one of ISEC's five core values. Commitment to Customer, Respect, Safety, and Teamwork are the other, equally vital, core values that ISEC adheres to on every project, making the partnership on this integral building fitting.

### ***Solutions of Special Projects***

From the beginning stages of ISEC's work on CCLD there were a multitude of opportunities that entailed creative problem solving. During preconstruction, ISEC became aware that original specifications required 10-inch wide veneer leaves. Unfortunately, that width was unavailable in the specified quarter sliced veneer in the market at that time. ISEC worked with veneer supply houses on what options were available and constructed full size 4ft x 8ft panels to show the design team a finished look that was possible to procure in the correct sizing. The design team was satisfied with the new material and the alternate was accepted. Another resourceful solution was on the project site itself, the area ISEC was to be working in (the Forum) was under tented scaffolding, which made taking traditional field measurements challenging. Under these conditions ISEC decided the best course of action was to take electronic laser measurements in order to get the elevation points needed to begin building the product.

### ***Excellence in Project Execution and Management Team Approach***

Collaboration with the project team, SOM the project architect, the fabrication experts and the Air Force Academy, began early on in the shop drawing/design phase. This helped create specifications and drawings leading to an aesthetically impressive final product capable of serving our future military leaders for years to come. During the collaboration process ISEC worked closely with their fabrication partner to create and build a detailed mockup. The mockup was shipped to the jobsite for an ISEC hosted meeting with the design team, owner and general contractor to review proposed changes to the veneer in lieu of what was originally requested. The architect and owner were extremely receptive to the reveal and hardwood suggestions. The materials incorporated into these walls were 7,000 square-foot of maple veneer on MDF; 4,500 square-foot of maple veneer on an acoustical panel and maple veneer on a maple hardwood handrail. All of these items had different characteristics and movement based on building conditions that had to be taken into consideration. The curvature of an integral hardwood handrail caused a fabrication constraint resulting in a two-piece construction. Utilization of maple hardwoods and veneer required precise matching efforts to ensure a consistent aesthetic. These challenges, in addition to the project requiring compliance with an AWI Premium Grade Blueprint matching quality standard, required careful coordination. After the changes were approved, ISEC was able to move forward quickly with a submittal package that accommodated the tight project schedule while also adhering to the existing building's LEED Silver certification.

### ***Construction Innovations/State-of-the-Art Advancement***

Often times, as a project progresses, details that seem solidified have changes that must be made in order to accommodate the final design intent. A knowledgeable team is necessary in these circumstances to face the new set of issues head on and produce a solution that is not only innovative and creative but also cost effective and time saving. ISEC's team on CCLD included Stephen Bialek, ISEC's corporate architectural woodwork manager with over 42 years of experience working on complex, state of the art facilities that showcase large scale, intricate woodwork, in addition to being a past board member of AWIQCP (Architectural Woodwork Institute Quality Certification Program). With Steve's input along with other members of the

project team, an innovative deviation suggested was to the 4,500 square feet of 'sound rated' wall panel. The original specifications called for a required NRC rating utilizing sound rated wall panels. Most sound panel systems require a hole pattern which entails having exact sized panels and layout in place before construction. Because field dimensions were needed for the sizing, the team had to come up with an alternative solution, as all field dimensions were not available early on in the schedule. ISEC developed a solution utilizing micro perforated veneer that allowed the material to be processed in to panels while finish dimensions were still being gathered from the field. This was an innovative solution that allowed ISEC to maintain the project schedule while still delivering the desired product functionality. The resulting product fit seamlessly into the space, met with the design standard and was at no additional cost to the owner.

### ***Environmental/Safety***

Safety, another one of ISEC's core values, is paramount on every project no matter what the environment. From design to installation, the CCLD project was faced with unusual conditions because of the stature of the large steel and glass wing structure that required extensive scaffolding, which was dangerous to work around and within. When faced with potentially unsafe situations, such as the CCLD building, ISEC prides itself on taking any extra steps necessary to ensure the safest work environment possible.

One of these steps was to adhere to the ISEC World Class Safety Recognition Program (WCSR), which was implemented four years ago on a project site. The program encourages the acts of being safe and a mental awareness of an entire team working towards a common goal. The WCSR consists of recognizing those that go above and beyond by way of earned incentives. This initiative requires a focused effort and hard work to achieve a "world class" designation. ISEC's commitment to world class safety was evident on the CCLD project. At completion ISEC had totaled 194 man-days, 4,654 hours, no injuries, let alone any recordables, and no first aid which was an accomplishment that the entire team strived to achieve, especially given that the project spanned through the unpredictable, often snowy, Colorado Spring months.

***Excellence in Client Service and or Contribution to Community***

Commitment to Customer is another one of ISEC's core values, which was wholly achieved on this project at CCLD, as the U.S. Air Force Academy was thoroughly impressed with the skill and professionalism of the ISEC project team that went over and above the call of duty. On multiple levels this project challenged ISEC and pushed the project team to come up with innovative processes and solutions, all while keeping ISEC's core values and safety at the forefront. The project team and ISEC grew as a whole working on this project and have come away with new techniques that can be utilized on future work. Being a part of the creation of a lasting, inspiring space for students to be cultivated and shaped into leaders has left a lasting impression on ISEC and will surely be a landmark that greatly influences generations of students to come.