



THE SPACE FOUNDATION DISCOVERY CENTER PHASE 1.5 RENOVATION

Creating a welcoming and immersive environment for all guests, adding new innovative exhibits and experiences, and attracting a more diverse and engaged audience to contribute to the enrichment of Colorado Springs



**El Paso County
Colorado Springs, CO
2023- 2024**

OVERVIEW

"From the complexities associated with the historical artifacts—to helping us come up with the right electrical solutions for innovative new exhibits—Weifield was side-by-side with us, working to develop the right solutions," **said Rachel English, Discovery Space Center Director.**

BACKGROUND



The Space Foundation Discovery Center in Colorado Springs, Colorado was built in 1978, and was originally a production facility that had not been updated significantly since being constructed.

The Center had a goal for the Phase 1.5 Renovation project to update its facilities in order to improve the visitor experience by creating a welcoming and immersive environment for all guests, add new innovative exhibits and experiences, and attract a more diverse and engaged audience to contribute to the enrichment of Colorado Springs.

The renovations began in November, 2023 and enhancements included:

- State-of-the-art flooring & electrical system improvements
- Redesign of the Science On a Sphere® system and Mars Robotics Laboratory
- Construction of new cutting-edge labs, including Drone Zone & Boeing Additive Manufacturing Space Laboratory—and more
- Over 3,000 square feet of additional exhibit space

SCOPE OF WORK



Specifically, the new exhibits added to the Discovery Center included:

- **Back to the Moon:** Visitors learn about the new era of lunar exploration a NASA's newest rocket – the Space Launch System (SLS) (Exhibit Artifact: Lunar Module)
- **Innovation in Action:** Visitors test a design and build circuits in a wind tunnel (Artifact: Wind Tunnel)
- **LiftOff:** Visitors learn how a rocket engine works & design and build one (Artifact: Aerojet Rocketdyne RL10 Engine)
- **You, Me, and Zero G:** Visitors explore Spacelab Engineering Module and walk through the Solid Rocket Booster (Artifact: Spacelab Engineering Module)
- **In Orbit:** Visitors spin around using gyroscopic motion, see the orbits of different satellites and control a satellite's orbit (Artifact: GPS Block IIA Satellite)ged and learn about space pioneer, Alan Shepard (Artifact: Skylab Waste Management Substation)
- **Extreme Environments:** Visitors create new environments in an interactive sandbox, drive underwater with underwater drone lab, care for plants in a hydroponic garden (Artifact: Scott Carpenter Space Analog Station)
- **Window to Our Universe:** Visitors see the sun in different wavelengths, play with light, learn about distant planets through spectascopy (Artifact: Baker Nunn Telescope)
- **To Boldly Go:** Visitors learn how waste in space is managed and learn about space pioneer, Alan Shepard (Artifact: Skylab Waste Management Substation)

SOLUTIONS OF SPECIAL PROJECTS

The project space itself was challenging to work in as there were multiple trades (e.g., HVAC, fire alarm, steel contractors, framers) working within the Discover Center, simultaneously.

"There was a lot of work in the space around those immovable artifacts which included two large parts of space shuttles in the space labs, a sixteen-foot tall rocket booster on a platform, and an underwater research vessel from the mid-90s," said Steven Holt, Weifield Field Supervisor. "These were priceless exhibits and nothing could happen to them—so there was a lot of coordination to make sure the exhibits were left in the same condition as we found them."

A main focal point was a new stage built in the middle of the event space—with different contractors needing to construct that phase; Weifield's crew got the power roughed into that stage for lighting and projectors quickly before moving on to tackle the smaller rooms.

"The varying exhibits meant that our crew attended to different odds and ends—taking care of rerouting, refeeding existing equipment, working with them on things that were missing on the drawings...basically, anything that arose as an issue, as we tackled as we went," Holt added. "As we were working in a museum, we not only had to ensure the lighting was functional—but as aesthetically pleasing as possible."

SOLUTIONS TO OVERCOME ADDITIONAL PROJECT CHALLENGES



Because the building was built in 1978, there were multiple concerns related to the electrical infrastructure.

“Any time you work in an older building, you find a lot of feeds coming in from various places,” Holt said. “This facility had five electrical rooms that fed the building—so we spent a lot of time ensuring the feeds were not ‘live’ and tracing them back to find out where they originated from.”

A lot of coordination also went into work within the Drone Zone—although installing tape lights was listed on the schedule, Weifield’s crew soon learned that the tape lighting needed to be in the shape of a large ‘star’ on the ceiling. Weifield also installed 300 different track heads and 108 large pendant lights through the space—shifting the lighting installations to cover all areas of the space and exhibits.

“The lighting layouts were not quite as ‘cut and dried’ as we thought—it took a lot of coordination and collaboration went into helping the Discovery Center determine the aesthetics. Weifield’s Prefabrication team did a phenomenal job creating pendant lights that achieved the precise look the owner was looking for,” said Chris Fries, Weifield Project Manager.

The Center’s existing fire alarm system was also in a state of disrepair, due to age; the team worked to resolve the issues but it wasn’t until the final stages of construction when it was discovered the majority of the building’s alarm systems were still not functioning correctly.

“We discovered that three Remote Terminal Units were never tied to the fire alarm systems—so our final completion date got pushed out a bit due to the this as well as steel work that was not completed on time. It was impossible to finish on the original schedule,” Holt said. “The team pulled together to finish everything as quickly as possible and still achieve the highest quality.”

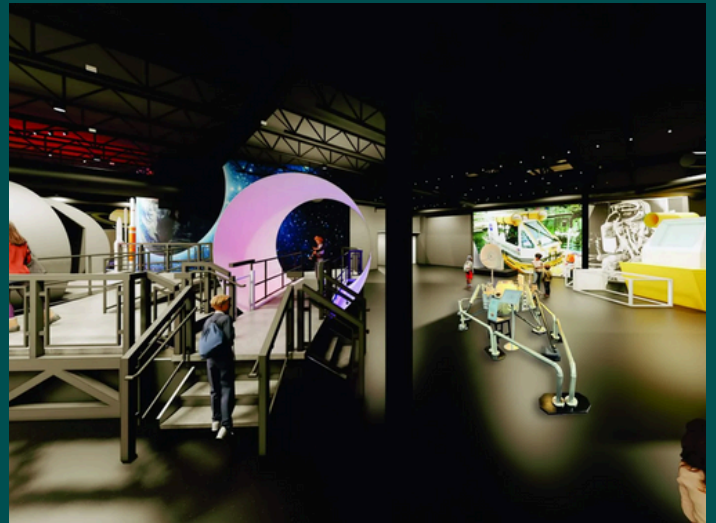
“There were many meetings with the owners to collaborate on solutions for what they wanted—to ensure that the various types of installations wouldn’t clash with their artifacts,” Fries said. “What the owners appreciated most about Weifield was our professionalism as well as our ability to stay on schedule and solve problems through collaboration and a proactive approach.”

EXCELLENCE IN CLIENT SERVICE / CONTRIBUTION TO THE COMMUNITY

In the end, Weifield exceeded GC and owner expectations by achieving the highest quality finished product while staying within budget.

"We knew that this was a museum—and so, we had to be as economical as we could in developing solutions," said Fries. "We did many one-off changes as trades and favors for the Space Foundation as possible in order to achieve their goals."

"Weifield's leadership did a great job keeping pace with the changes and added scope as we went along," said John Berger, GH Phipps Field Supervisor. "A lot of areas initially were vague from a design standpoint; Weifield worked through each issue with the teach to architect workable solutions and get areas completed. Weifield's foreman was very knowledgeable about electrical and overall, Weifield is better than most contractors we have worked with. It was a pleasure to work with them on this project."



Said Rachel English, Discovery Space Center Director: "What I loved most about the Weifield team was their flexibility and willingness to talk through any issues that arose. An example was the exhibit designs which changed several times and that meant adding and moving electrical outlets to accommodate the new designs. Weifield's foreman was always up front with the labor and time involved with each change—and he was truly interested in figuring out how each exhibit was supposed to work and working together to find the right solution. In the end, we had to add smoke detectors inside historic artifacts—and Weifield was instrumental in determining how to meet code while maintaining the sanctity of the artifact. I would welcome the opportunity to work with Weifield again on future projects!"

Said Craig Lamotte, Space Foundation Director of Operations: "Weifield really went above and beyond for everything that needed to be done. The team ran into a lot of hiccups along the way; there were some issues with other contractors, etc. – but as far as Weifield was concerned, anytime we asked for suggestions about how to tie into existing systems or had questions about different aspects of the project – they knocked it out of the park. Weifield's Foreman, Steve, was the one that was the main source of support and we truly appreciated his efforts on this project."

CASE STUDY

Inspired by Weifield's success story?
Get in touch with us to start your journey
toward outstanding results!

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