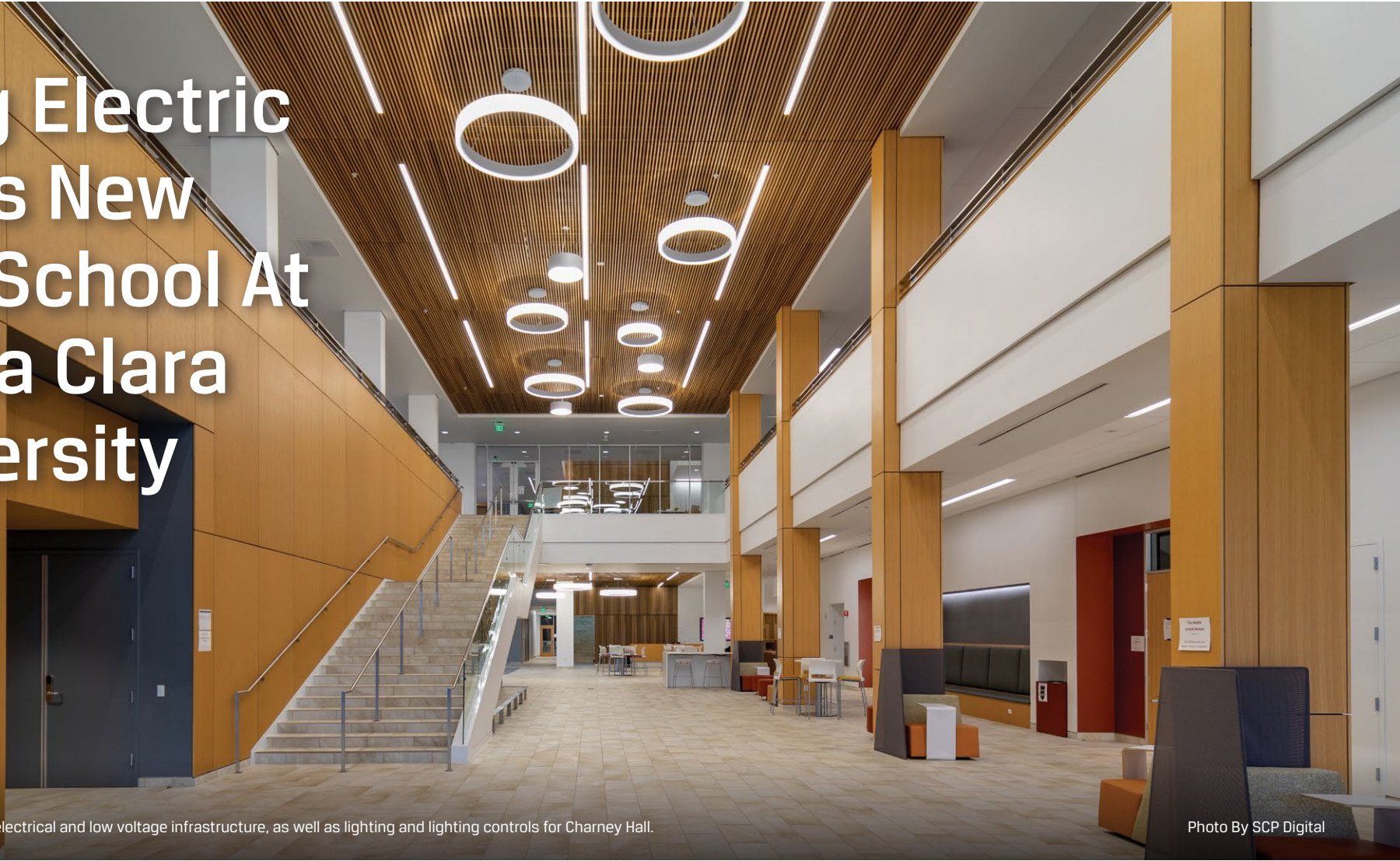


The Silicon Valley Wire

The latest news from the electrical industry in Silicon Valley

3rd Quarter 2018

Sprig Electric Wires New Law School At Santa Clara University



Sprig Electric wired the electrical and low voltage infrastructure, as well as lighting and lighting controls for Charney Hall.

Photo By SCP Digital

Sprig Electric recently completed wiring the electrical infrastructure for Charney Hall, the new home to Santa Clara University's School of Law. Sprig Electric's \$6 million design-build project also includes installation of lighting and lighting controls throughout the building, as well as installation of the low voltage infrastructure. Charney Hall officially opens in October 2018.



Sprig Electric installed 12 KV switchgear with 480/277V and 208/120V power, which was distributed throughout the building.

The Howard S. and Alida S. Charney Hall of Law is named for one of the school's chief benefactors, Cisco Senior Vice President Howard Charney and his wife Alida Schoolmaster Charney. Charney is a Santa Clara University Trustee and a 1977 graduate of the law school.

The 97,000 sq. ft. building brings together most of the school's clinics, institutes and programs under one roof for the first time in more than 40 years. The space includes a 230-seat lecture hall, courtroom, a new law library, collaborative learning

classrooms, legal clinic study spaces, a reading room and over 50 faculty and administrative offices.

Devcon Construction is the general contractor; the architect is Solomon Cordwell Buenz (SCB). The main construction project manager for Santa Clara University is Steve Thompson.

Sprig installed 12 KV switchgear with 480/277V and 208/120V power, which was distributed throughout the building. The power, obtained from one of Santa Clara University's vaults, was brought into the main electrical room,

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Sprig Electric's work included wiring the new law library.

Photo By SCP Digital

Sprig Electric Wires New Law School At Santa Clara University

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which is located on the north end of the building on the first floor. Sprig performed a short circuit arc flash study to determine if the ratings on the switch gear were compatible with the vault current they brought in.

Sprig extended the power to four additional electrical rooms in the center of the building, stacked on floors 1, 2, and 3. Sprig also wired the server rooms, which are next door to the electrical rooms. Space for future solar equipment is included in the main electrical room. The main switchgear has the capacity for a future solar tie-in as well as provision for added power.

Some 20 electricians from the International Brotherhood of Electrical Workers (IBEW) Local 332 worked on the project. Sprig compiled over 500 prefab labor hours to build and streamline the installation.

Sprig installed high-end lighting in a variety of different ceiling types throughout the building, including standard grid ceilings, gypsum board ceilings, and decorative wood ceilings. LED lighting strips are installed in the handrails on the second and third floor terraces. Other light installations include building sconces, in wall lights and standard pole lights. Sprig installed the state-of-the-art

lighting control system, nLight.

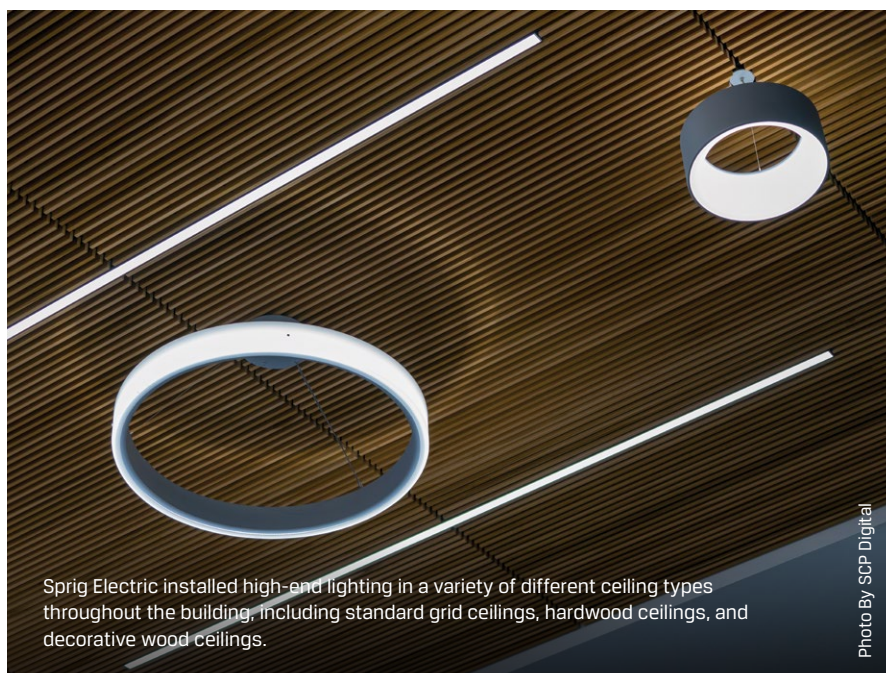
The main lecture hall lighting features Finelite suspended linear fixtures. The high ceiling of the building's lobby includes circular Delray lighting fixtures as well as suspended linear fixtures from Finelite.

Sprig wired the infrastructure for the low voltage system as well as the infrastructure for the distributed antenna system (DAS), wireless access points, the security system, and the AV system. They integrated two touch panels in the Panelli courtroom that control the motorized window shades and the audio video installations.



ICS-Integrated Communication Systems designed the state-of-the-art fire alarm and voice evacuation system for Charney Hall.

Photo By SCP Digital



Sprig Electric installed high-end lighting in a variety of different ceiling types throughout the building, including standard grid ceilings, hardwood ceilings, and decorative wood ceilings.

Photo By SCP Digital



Sprig Electric's installation utilized an existing emergency generator for the lighting and fire alarm systems.

Photo By SCP Digital



Sprig Electric wired the electrical and low voltage infrastructure, as well as lighting and lighting controls for Charney Hall.

Photo By SCP Digital

ICS-Integrated Communication Systems designed the state-of-the-art fire alarm and voice evacuation system for Charney Hall. ICS also installed a two-way elevator lobby communication system for the new law school, the first such installation on the Santa Clara University campus.

"Our challenge with this project was to deliver a quality product in a high-end space while meeting the schedule

and budget," said Sprig Electric Project Manager Matt Donohoe. "A lot of time was spent coordinating with various trades. Scheduling was a big portion of the project, working with the complexity of the different systems going into the building. Despite the complexity of the project, the outcome was amazing."

The Sprig team helped meet its commitment to quality through

the longevity and close working relationship that its core construction management team has developed while working together over the long term. Core team members, including Matt Donohoe, Project Manager; Matt Nelson, Chief Project Management Officer; Hermilo Ruiz, General Foreman; and Chris Corona, Superintendent have worked together as a team at Sprig for over a decade.

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Sprig Electric Project Team: This team has collaborated on Sprig Electric projects for over a decade. **LEFT TO RIGHT:** Hermilo Ruiz, General Foreman; Matt Donohoe, Project Manager; Chris Corona, Superintendent; Matt Nelson, Chief Project Management Officer (not pictured)

Photo By SCP Digital

SPRIG ELECTRIC TEAM LIST CHARNEY HALL, SANTA CLARA UNIVERSITY:

CLIENT:

Santa Clara University, Santa Clara
Steve Thompson, Construction
Project Manager

ARCHITECT:

Solomon Cordwell Buenz
(SCB), San Francisco

GENERAL CONTRACTOR:

Devcon Construction, Inc., Milpitas

ELECTRICAL CONTRACTOR:

Sprig Electric, San Jose
Matt Nelson, Chief Project
Management Officer
Matt Donohoe, Project Manager
Hermilo Ruiz, General Foreman
Chris Corona, Superintendent

FIRE ALARM SYSTEM:

ICS-Integrated Communication
Systems, San Jose
Amir Mohammadian, Senior
Project Executive

SITE EXCAVATION:

Joseph J. Albanese, Inc., Santa Clara

ELECTRICIANS:

20 electricians from the International
Brotherhood of Electrical Workers
(IBEW) Local 332, San Jose



Intrepid Electronic Systems and TDN Electric installed new Emergency Responder Radio Coverage System (ERRCS) for Design Tech High School.

Intrepid Electronic Systems & TDN Electric Install Emergency Responder Radio Coverage System For Design Tech High School

If a fire or other emergency occurs at Design Tech High School, located on the Oracle Campus in Redwood City, first responders can use the school's new public safety communications system to talk with each other, thanks to the work of Intrepid Electronic Systems and TDN Electric.



Photo By SGP Digital

Intrepid Electronics Project Team:
 LEFT TO RIGHT: Joseph LaForga, Technician;
 Tony Locatelli, FCC GROL Certified Director and Project Executive;
 Mike Brunner, FCC GROL Certified Technician

The new wireless system, also called an Emergency Responder Radio Coverage System (ERRCS), allows firefighters, police officers, or other first responders to go inside a public building while maintaining communications with each other and with dispatch over enhanced radio frequencies.

Design Tech High School is a free public high school authorized by the San Mateo Union High School District. Its first class of seniors graduated this year. The school's \$43 million building was funded by Oracle - making it the first public high school in the U.S. to be located on a tech company's campus, while remaining fully autonomous.

San Mateo County requirements call for Design Tech's ERRCS system to include three bands, one for the Redwood City fire department, one for the Redwood City police department,

and one for the San Mateo Countywide law enforcement mutual aid. The radio bands include 150MHz (VHF), two sources of 450MHz (UHF) and 700MHz.

Intrepid Electronic Systems designed and installed the system, completing it in May 2018 on a fast-track four-week installation timetable. TDN Electric installed the conduit and the terminal boxes for the system in one week. The system covers the two-story, 63,000 sq. ft. building.

The system was installed after a test by the fire marshal showed that his handheld radio didn't have reception inside the building because the building's glass and concrete structure was attenuating the radio frequencies (RF). The ownership had a more definitive RF completed test, which measured the radio signal for each of the three



Photo By SCP Digital

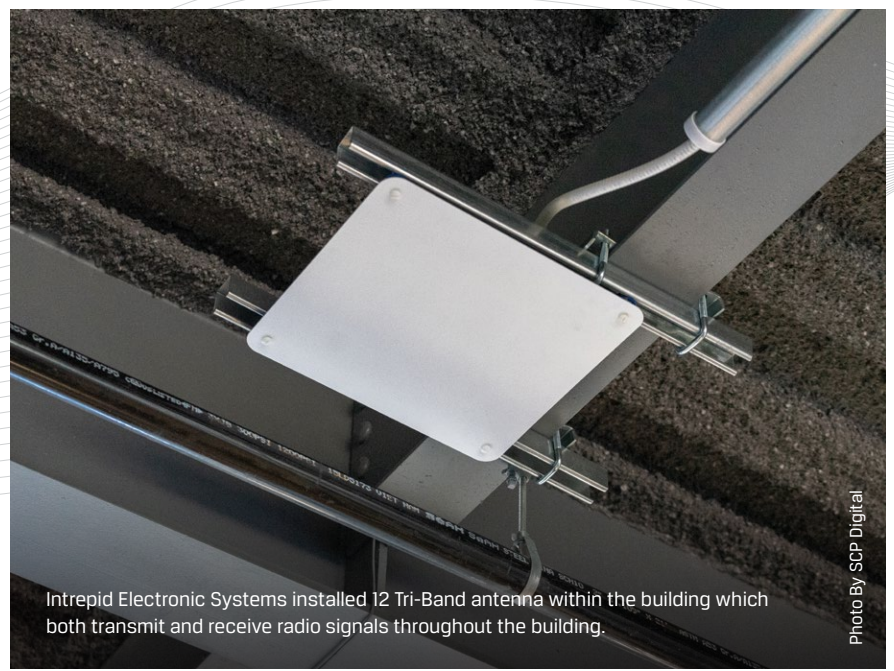


Photo By SCP Digital

Intrepid Electronic Systems installed 12 Tri-Band antenna within the building which both transmit and receive radio signals throughout the building.

frequencies in general and critical areas on each floor. The benchmark test showed the need for an ERRCS System.

Intrepid Electronic Systems secured the bid. Tony Locatelli, Director and Project Executive, said Intrepid put the installation on a fast-track because the building's temporary certificate of occupancy was due to expire and was not going to be extended.

"Intrepid designed three ERRCS antennas for the roof, one for each radio frequency," said Locatelli. "The donor signals were brought down into the building with separate coaxial cable installed through a two-inch riser of electrical metallic tubing (EMT) conduit wired by TDN Electric. The cables then ran to the amplifiers in the first-floor electrical room."

TDN Electric, working with project manager Craig Slama, installed the EMT conduit, beginning in the first-floor electrical room, running on the ceiling space on the first floor and then onto the ceiling space on the second floor, and then going up to the roof through a riser. They also installed the galvanized



Photo By SCP Digital

Intrepid designed three ERRCS antennas for the roof, which were connected to the amplifiers in the first-floor electrical room.

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Photo By SCP Digital

TDN Electric Project Team:

LEFT TO RIGHT: Jeff Bowline, Foreman; Tim Daniels, President (NOT PICTURED); Craig Slama, Project Manager (NOT PICTURED)



Photo By SCP Digital

TDN Electric installed the conduit and the terminal boxes for the ERRCS system in one week.



TDN Electric installed the EMT conduit throughout the first and second floors of the building.

Photo By SCP Digital

Intrepid & TDN Electric Install A New ERRCS System For Design Tech High School

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rigid conduit (GRC) on the roof to a mast that attaches to the antennas.

Intrepid installed 1,500 feet of heliax 1/2" coaxial cable to connect the system and provided and installed all amplifiers, along with the secondary power supply, couplers, splitters and tri-band antenna. They commissioned and optimized the amplifiers for final operation.

The amplifiers boost the strength of the existing radio signal and push it to the 12 antenna placed within the building. (6 on the first floor; 6 on the second floor). From these antennas the radio signal is disseminated throughout the building over the radio frequency. The boosted signal is then retransmitted outside.

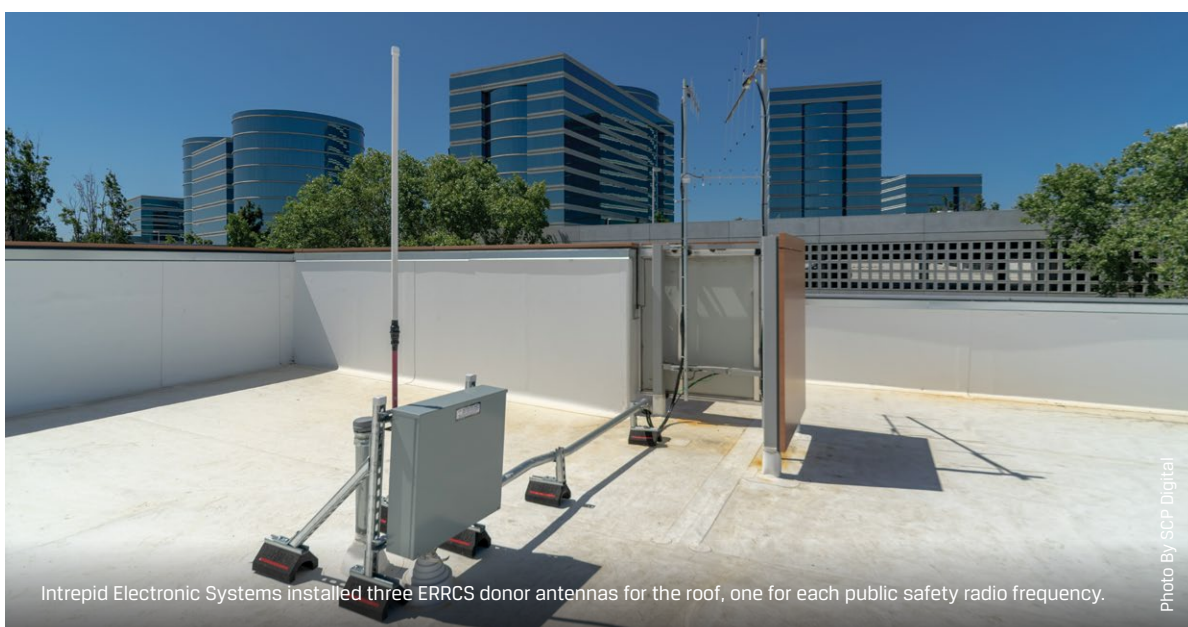
GROL certified Technicians working with Intrepid Electronic Systems and electricians working with TDN Electric were from the International Brotherhood of Electrical Workers

(IBEW) Local 332 in San Jose and IBEW Local 617 in San Mateo.

ICS-Integrated Communication Systems modified the fire alarm system so that the 12 points within the ERRCS system could be monitored by the fire alarm system.

Intrepid Electronic Systems, Inc. is located in Oakland and San Jose, and specializes in the installation of fire alarm, suppression and radio enhancement systems. CEO Kurt Brinkman can be reached at kurt@intrepidelectronic.com or 888.826.3040. www.intrepidelectronics.com.

TDN Electric, Inc. is located in Mountain View, and provides electrical contracting and design/build services. President Tim Daniels can be reached at tdaniels@tdnelectric.com or 650.968.8000. www.tdnelectric.com.



Intrepid Electronic Systems installed three ERRCS donor antennas for the roof, one for each public safety radio frequency.

Photo By SCP Digital

DESIGN TECH HIGH SCHOOL TEAM LIST

CLIENT:

Design Tech High School, San Mateo
San Mateo Union High School District (SMUHSD)

ARCHITECT:

DES Architects + Engineers, Redwood City

CONSTRUCTION MANAGER:

Nova Partners, Mountain View
David Mendivil, Construction Project Manager

GENERAL CONTRACTOR:

XL Construction, Inc., Milpitas
Mitch McDonald, General Superintendent
Jennifer Seeley, Senior Field Engineer

ELECTRICAL CONTRACTOR:

Cupertino Electric, San Jose

EMERGENCY RADIO RESPONSE SYSTEM CONTRACTOR (ERRCS):

Intrepid Electronic Systems, San Jose
Kurt Brinkman, CEO
Tony Locatelli, Director and Project Executive
Jeremy Reynolds, Systems Engineer

ELECTRICAL CONDUIT CONTRACTOR:

TDN Electric, Inc., Mountain View
Tim Daniels, President
Craig Slama, Project Manager
Jeff Bowline, Foreman

FIRE ALARM SYSTEM:

ICS-Integrated Communication Systems, San Jose
Amir Mohammadian, Senior Project Executive

TECHNICIANS:

The International Brotherhood of Electrical Workers (IBEW) Local 332, San Jose:
Mike Brunner; Joseph LaForga

ELECTRICIANS:

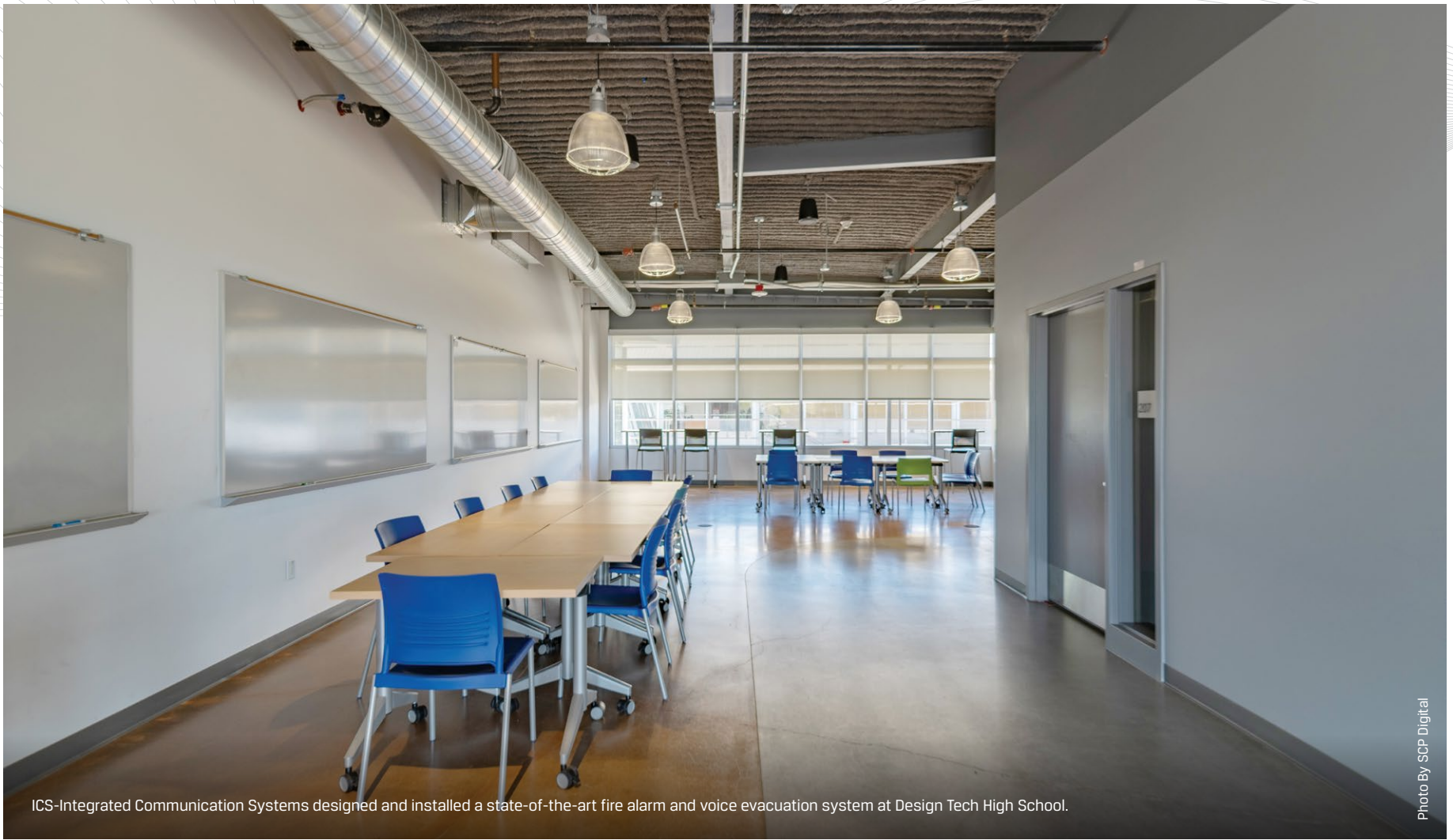
The International Brotherhood of Electrical Workers (IBEW) Local 332, San Jose, and IBEW Local 617, San Mateo:
Jeff Bowline, Foreman; Soojin O; Joshua Rodriguez; Eric Schleef; Francisco Castano

AMPLIFIERS:

Cobham Group, San Jose
Kevin Persing, Western Regional Sales Manager
George Potter, Engineer

THRID-PARTY WIRELESS INSPECTION COMPANY:

Hetnet Wireless
Matt Brown, Account Executive



ICS-Integrated Communication Systems designed and installed a state-of-the-art fire alarm and voice evacuation system at Design Tech High School.

Photo By SCP Digital

ICS-Integrated Communication Systems Installs Fire Alarm System For Design Tech High School

In case of a fire emergency, Design Tech High School is protected by a state-of-the-art Edwards EST-3 fire alarm and voice evacuation system designed and installed by ICS-Integrated Communication Systems.



The Edwards EST-3 fire alarm system provides the interface for monitoring the Emergency Responder Radio Coverage System (ERRCS).

Photo By SCP Digital

ICS also installed the smoke control and two-way elevator lobby communication systems for the building. This included installation of detection and occupant notification devices, as well as interfacing with the building HVAC system and dedicated smoke exhaust fans.

As part of the smoke control system, the fire alarm system also controls exterior doors that would be used to provide make-up air during a building alarm condition.

ICS Senior Project Executive Amir Mohammadian said that the fire alarm system also provides the interface for monitoring the Emergency Responder Radio Coverage System (ERRCS) system. Any building equipped with an

ERRCS system is required to be monitored by the fire alarm system for fault conditions.

The requirement for the fire alarm system interface with the ERRCS system came post-construction, after work on the building had been completed. ICS then modified the fire alarm system so that it could monitor the 12-points within the ERRCS system.

To learn more about the services of the ICS Fire Systems Group, contact Amir Mohammadian at amir.mohammadian@icsintegration.com, or Aaron Colton, CEO of ICS-Integrated Communication Systems at aaron.colton@icsintegration.com or call 408.491.6000.



ICS Senior Project Executive Amir Mohammadian is a veteran of fire system design and permitting.

Photo By Nick Elias



The fire alarm installation was challenging because of the open architecture of the building.

Photo By SCP Digital



ICS installed a state-of-the-art Edwards EST-3 fire alarm and voice evacuation system at Design Tech High School.

Photo By SCP Digital



Sprig Electric wired the new Charney Hall courtroom, which doubles as a classroom.

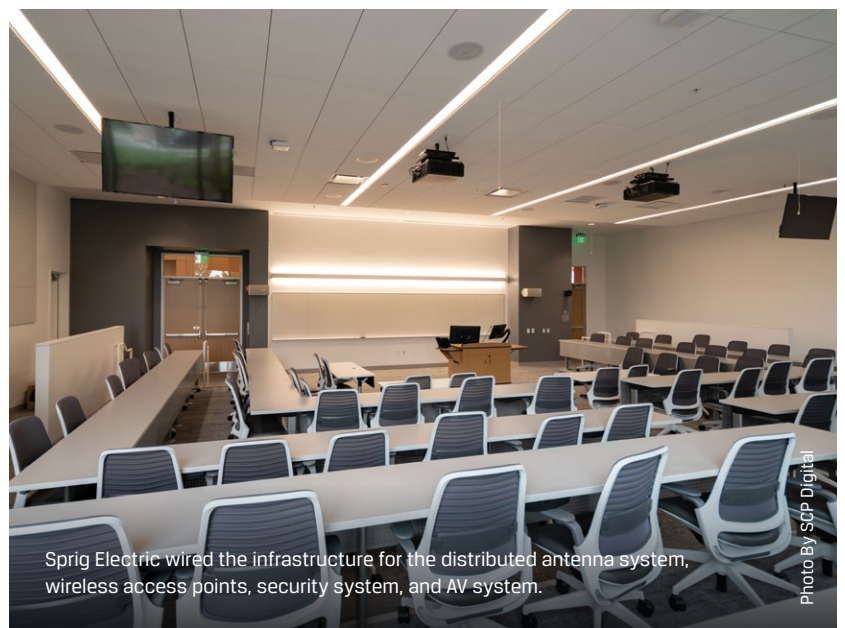
Photo By SCP Digital

Sprig Electric Wires New Law School At Santa Clara University

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Sprig also has a long-term relationship with Santa Clara University, and has worked on various projects in a design build capacity on the campus for over 15 years. The familiarity with Santa Clara University and the strong working relationship among the core team members were critical to the project's success.

For more information about Sprig Electric and its services, contact AJ Ramirez, Marketing Communications Specialist (aramirez@sprigelectric.com) or call (669) 230-4481.



Sprig Electric wired the infrastructure for the distributed antenna system, wireless access points, security system, and AV system.

Photo By SCP Digital



ICS-Integrated Communication Systems installed a two-way elevator lobby communication system for the new law school.

Photo By SCP Digital



Sprig Electric installed the state-of-the-art nLight lighting control system.

Photo By SCP Digital