A QUARTERLY NEWSLETTER PUBLISHED BY NECA-IBEW

# The Silicon Valley Wire

The latest news from the electrical industry in Silicon Valley

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# Sprig Electric Wires Santa Clara University's New Sobrato Campus for Discovery and Innovation

Sprig Electric is wiring Santa Clara University's new Sobrato Campus for Discovery and Innovation, a 300,000 square foot facility that provides expanded space for sciences, engineering and mathematics.



The new Sobrato facility is the largest building on campus, and is located near Palm and Sherman, close to the main entrance on Palm. The building has a 4 also the engineer of record. Sprig Electric's work included installation of the electrical infrastructure and wiring 16 electrical rooms; completion of emergency power backup,

Sprig Electric is wiring in-grade lighting for the courtyard as well as bollard lighting to illuminate the pathways.

story wing on the east side, and two 3-story wings on the north and south sides, with a courtyard in the middle.

Sprig Electric, an ArchKey Solutions company provided design/build and installation services for the \$27.5 million project and is including a generator yard and a UPS system; the installation of over 3200 lighting fixtures, and the installation of the fire alarm system.

Sprig Electric completed a BIM model in Revit of the entire project and began work on the facility in early 2018. **CONTINUED ON NEXT PAGE** >

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Sprig Electric is providing design build and installation services for the Sobrato Campus for Discovery and Innovation at Santa Clara University

Sprig Electric is installing all of the lighting inside and outside the new Sobrato Campus at Santa Clara University.



Sprig Electric wired the in-grade lighting, bollards, pole lights and LED seating lights in the courtyard which is the center of the new Sobrato campus.

TDN Electric provided electrical services for Microchip's testing and R&D lab's relocation.



## Sprig Electric Wires Santa Clara University's New Sobrato Campus for Discovery and Innovation

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Completion is anticipated in the spring of 2021. Chris Snyder is the Sprig Electric Project Manager. Devcon Construction is the general contractor. 67 electricians from the International Brotherhood of Electrical Workers (IBEW) Local 332 worked on the project.

The building will house the growing field of STEM technologies (Science, technology, engineering, math), and is designed to encourage collaboration among students and faculty. Although the building contains traditional labs and classrooms, there are collaborative hubs on each floor where students work together and can receive direct faculty mentorship. A 3,000 sq. ft. innovation zone in the building showcases projects and encourages students to inspire each other.

The facility has two 12kV services distributing power throughout 16 electrical rooms. Sprig Electric performed the electrical infrastructure work, bringing in the medium voltage electric service from the secondary side of the distribution





Sprig is bringing power into the main electrical rooms stacked within the new buildings.



center adjacent to the building. Sprig Electric then distributed the electric service into the electrical rooms within the building, as well as to other areas.

Sprig Electric brought power into the main electrical room on the north side of the first floor, with an emergency electrical room adjacent. Sprig Electric also brought power into the other 14 electrical rooms. The east wing has eight electrical rooms; the south wing has three electrical rooms, and the north wing has three additional electrical rooms, excluding the main room and the emergency electrical room. The electrical rooms are stacked.

Sprig Electric also is wiring an emergency generator and a UPS System in the facility. The 600kW generator is located in the generator yard that Sprig Electric is building across the street from the facility; they installed the raceways during the underground phase of the construction over a year ago.

Sprig Electric added the UPS System to insure that there is no disruption of power to sensitive equipment or experiments. The 225kVA UPS System is located inside the building in the emergency electrical room. It will kick in if there is a loss of power event that typically results in a delay in regaining quality power with a generator.

Sprig Electric also installed all the lighting inside and outside the building.

There are over 3200 fixtures in the facility, composed of approximately 100 different kinds of fixtures. Lighting is a critical factor when designing a STEM building. In a building where a variety of tasks are to be **CONTINUED ON NEXT PAGE** >





taught and performed, the available light must meet the needs of faculty and students.

Outside the building Sprig Electric wired the in-grade lighting in the courtyard to highlight the exterior surfaces and materials of the building. The lighting on the exterior also included pole lighting with integrated Wi-Fi; linear LED lighting underneath benches and seating structures in the courtyard, and bollard lighting for area pathway lighting.

Sprig Electric installed high end lighting in a variety of different ceiling types throughout the building. Common areas share decorative lighting and wall mounted directional linear LED cove lighting. Lab areas have multi directional LED lighting complemented by sloped ceilings.

Both the lab lighting and the corridor lighting are composed

of linear LED lighting that's raised tight to the ceiling and shines through perforated metal ceilings. The lighting fixtures are custom built to length. In the innovation zone, linear LED lighting tied to the structure shines through a perforated metal grid.

"We worked with the fixture manufacturers to create shop drawings that matched what we were building," said Chris Snyder, the Sprig Project Manager. "In the corridors we had wall mounted linear lighting. The lighting is directional and had to shine in an appropriate direction, and not into the wall."

"There were two lighting challenges," said Snyder. "One was working with the lighting and the manufacturers and getting the fixtures correct, and the other was the model side of it. "We modeled all those lights, showing the client how everything will





#### come together."

Sprig Electric is installing vertical LED lighting which spans the entire stairwell of the 4-story

east wing

Sprig Electric was also the installing contractor for the fire alarm system, a voice evacuation system from Edwards Systems Technologies (EST). The city requested that the fire alarm system monitor the air handler that's feeding the emergency electrical rooms so it can indicate if there's a problem and can shut down the rooms where the UPS is located if needed. The City also requested that the fire alarm system monitor the refrigerant monitoring system.

Sprig Electric is installing pole lighting with integrated WI-FI as a part of the exterior lighting for the courtyard

Sprig Electric 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 was critical to the project's success.

For more information about Sprig Electric and its services, contact AJ Ramirez, Marketing Manager, 669.230.4481 or aj.ramirez@archkey.com.

**SPRIG ELECTRIC TEAM LIST SOBRATO CAMPUS FOR DISCOVERY** AND INNOVATION SANTA CLARA UNIVERSITY

#### CLIENT:

Santa Clara University, Santa Clara **ARCHITECT:** 

ZGF Architects LLP, Portland Stephen Colin, AIA, Associate

**GENERAL CONTRACTOR:** Devcon Construction, Inc., Milpitas

#### **ELECTRICAL CONTRACTOR:**

Sprig Electric San Jose Matt Nelson, President & COO Chris Snyder, Senior Project Manager Coby Schilling, Project Engineer Earl Finlay, Lead Engineer Cheto Paradela, Lead Electrical Designer Jim Howell, BIM/Revit Detailer Sumit Aggarwal, BIM/Revit Designer Chris Corona, Superintendent Chris Ayala, Lead General Foreman Jason Towle, Single Line General Foreman Larry Vasquez, Lighting General Foreman

#### **ELECTRICIANS:**

67 electricians from the International Brotherhood of Electrical Workers (IBEW) Local 332

FIRE ALARM SYSTEM: Sprig Electric, San Jose









# TDN Provides Electrical Services For The Relocation Of Microchip's Testing And R&D Lab

TDN Electric is known for its expertise in successfully completing complex technical projects, so it was no surprise that the company was selected as the electrical contractor for Microchip's relocation of its testing and R&D lab last year at its San Jose headquarters.

Microchip Technology Inc. (NASDAQ: MCHP), offers a comprehensive portfolio of semiconductor and system solutions for communications, defense & security, aerospace and industrial markets. The Microchip R&D lab was relocated within the company's San Jose headquarters, and was moved to 8,500 square feet of former office space within the building.

TDN Electric provided a number of services for the project, including a new lighting and lighting control system, wiring and power distribution for workbenches and racks, electrical devices in overhead and pedestal mounted wire mold, the grounding system for customer test benches, installation of the environmental chambers and anchoring of 85 server racks.

The R&D lab relocation, completed in December of 2020, took six months to finish on an aggressive timeline. Gordon Prill (the architect, MEP Engineer, and General Contractor) provided the design and construction for the project. Gordon Prill brought on TDN Electric to complete the electrical wiring. TDN's project manager, Russ Walling, and his staff worked with technicians from the International Brotherhood of Electrical Workers (IBEW) Local 332 in San Jose.







PASE was the structural engineer of record.

The R&D space itself is filled with 90 work benches that were grounded and wired by TDN Electric. TDN also anchored 85 server racks, which required over 1000 connection points.

TDN put in a new LED linear lighting system with new title 24 compliant lighting controls. The old lighting system, which had a T Bar ceiling and fluorescent lights, was not title 24 compliant. The new LED lighting system is more energy efficient and provides more foot candles.

The lighting control system, a Wattstopper DLM (digital lighting management) system, includes occupancy controls and photo-sensing controls. These controls can detect the amount of natural lighting coming in a window, and automatically dim the lights if natural sunlight is coming in, so energy usage is minimized.

The R&D room itself is filled with 90 workbenches or workstations where researchers test, assemble, and repair the various R&D projects. The workbenches are connected to the servers in the adjacent server racks via the overhead wire management system.

TDN Electric distributed power to the workbenches through new panel boards and new feeders to those panel boards. The power came from the main electrical room in another area of the building.

TDN Electric distributed branch power into an overhead trapeze system located at each row of benches and server racks. The trapeze system has a basket tray running down the center, which is used for all the low voltage interconnect cabling.

#### TDN TEAM LIST MICROCHIP TECHNOLOGY INC.

**CLIENT:** Microchip Technology, Inc.

**ARCHITECT:** Gordon Prill, Sunnyvale

GENERAL CONTRACTOR: Gordon Prill, Sunnyvale

**STRUCTURAL ENGINEER:** PASE (Peoples Associates Structural Engineers), San Jose

**MEP ENGINEER OF RECORD:** Gordon Prill, Sunnyvale

**MECHANICAL CONTRACTOR:** AIM Sheet Metal, San Carlos

ELECTRICAL CONTRACTOR:

TDN Electric, Mountain View Russ Walling, Project Manager John Gerritse, Foreman Marco Gonzales, Anthony Guido, Nick Guevara, Field Electricians

#### ELECTRICIANS:

4 electricians from the International Brotherhood of Electrical Workers Local 332

FIRE ALARM SYSTEM: RTS Systems & Design LLC, Pleasanton

# NECA-IBEW In The Community







## TDN Provides Electrical Services For The Relocation Of Microchip's Testing And R&D Lab

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There are two wiremold on the trapeze system, which act as a surface mounted raceway for receptacles. TDN Electric distributed the branch wiring on one side of the row, and grounding & infrastructure for data cabling on the other side of the row. They installed electrostatic discharge (ESD) grounding to provide a safe working environment racks, which included development of 23 specific design cases for rack anchoring with custom mounting brackets. TDN installed environmental (thermal vac) chambers in the R&D area (one for heat, one for cold, one as a vacuum chamber).

One of the challenges faced by TDN Electric in wiring the R&D space was to monitor the precise layout of customer equipment to support the installation of overhead feeders, branch conduit runs and light fixtures, according to Project Manager Russ Walling.



PRSRT STD

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for the sensitive electronic components found in circuit boards.

The trapeze structure has a basket tray running down the center, which will function as a pathway for patch cables between the server racks and the hardware that's on the work stations. TDN placed G6000 wiremold on either side of the basket tray, ready for researchers to connect plug strips for their benches. On the other side, there is grounding. TDN also pedestal mounted wiremold at the perimeter walls of the new R&D space.

TDN also anchored 85 server

"We had a cooperative coordination with all project partners to ensure a clean and efficient overhead installation in an open ceiling space," Walling added.

For more information about TDN Electric, contact Russ Walling at (408) 887-8170, or email rwalling@tdnelectric.com.

