



CALIFORNIA ENERGY DESIGNS

Consulting Engineers

HVAC, Plumbing, and Air Quality
Control System Design

PREPARED BY:

GABRIEL GAGNON, CEO
CALIFORNIA ENERGY DESIGNS

PREPARED FOR:

ABOUT US

Since 1977, California Energy Designs has served architects, engineers, developers, and contractors on their industrial, commercial, and residential projects. California Energy Designs prides itself on having a small, hand-selected, well qualified, and imaginative staff in order to ensure the finest quality and timeliest completion of all projects.

From the receipt of the project information through completion of installation, each job is program-planned to eliminate delay. Our exclusive activity in HVAC, plumbing design, and energy evaluation, gives us an appreciative understanding of each customer's problems, and a well-tread framework for *resolving* them.

OUR APPROACH

While our strict focus on mechanical & fluid system designs sets us apart from competitors who position themselves too broadly, what truly distinguishes California Energy Designs is the innovative framework that our talented team of consulting engineers bring to each project.

The competitive edge we hold is a result of the unique perspective and can-do attitude of a staff that truly *thinks different*.

From the complete reversal of a marquee auditorium's airflow system—saving the landmark building from a costly and invasive renovation process—to fueling military housing facilities with spent jet-fuel that was ordinarily treated as waste, our team of consulting engineers are more than just *experts* — they're *dreamers* too.

OUR TEAM

California Energy Designs' highly-focused small team of consulting engineers allow us to stay competitive with emerging global energy trends, while dedicating more time and personal attention to our clients.

With an expertise that extends to all internal fluid-based systems, our staff is able to cover a wide-breadth of industry terrain while remaining specialized enough to reduce bloat and the resulting lack of cross-functional synergy that accompanies it.

Our licensed engineers were selected & developed from the time of graduation, based on their top-tier performance, awards, and extremely dedicated attitudes; further aiding our tight-knit team in bringing our projects to completion *on time*, *on budget*, and *above* expectations.




OUR SERVICES

California Energy Designs provides consulting engineering services, specializing in mechanical and fluid systems.

Our team of licensed engineers provide **HVAC**, **Plumbing**, and **Air Quality Control** system designs in both **AutoCAD** and **Revit 3D**, allowing seamless integration of project files for our partnering architects, builders, and project management firms.

By utilizing building information modeling (**BIM**) tools like—Revit 3D—we can work in a highly-collaborative manner with each part of the project team, ensuring all system designs are fully-compatible with one another.

With auto-detection of collisions—among other time-saving features—this unified software workflow allows time to be cut on unnecessary manual tasks—further improving project cost-effectiveness.



ENERGY EFFICIENT SYSTEM DESIGN

INTEGRATING HIGH-PERFORMING MATERIALS & TECHNOLOGIES WITH CONSCIOUS SYSTEM DESIGN CHOICES TO REDUCE ITS CARBON-FOOTPRINT & RESOURCE-CONSUMPTION.

TEMPERATURE & HUMIDITY CONTROL

WARM, WET ENVIRONMENTS ARE BREEDING GROUNDS FOR BACTERIA & OTHER MICROORGANISMS. HVAC SYSTEMS CAN REDUCE RISK WITH HIGHLY-CONTROLLED CLIMATES.

VENTILATION

PROPER VENTILATION ALLOWS THE REMOVAL OF SYSTEM CONTAMINANTS THROUGH ITS AIR FLOW DESIGN.


FILTRATION

HVAC SYSTEMS CAN PASS AIR THROUGH HEPA FILTERS WHICH ARE DESIGNED TO REMOVE 99.997% OF PARTICULATE MATTER.

SYSTEM DESIGN

- HVAC Design
- Plumbing Design
- Air Quality Control

CALIFORNIA ENERGY DESIGNS



Emergent Technologies & Methods

Building Information Modeling (BIM), High-Efficiency Equipment, and Green Building Standards (LEED & More)

Our team has worked with the latest industry developments to reduce facility resource consumption.



AUTODESK
AUTOCAD



AUTODESK
REVIT



With multiple LEED-Certified and GreenPoint Rated projects, California Energy Designs has worked with extensive technologies, methods, and equipment designed for energy-efficiency and sustainable building.

California Energy Designs' team of consulting engineers are experts in the design of **four-pipe chillers, heat-pumps, geothermal** and **gas/electric systems**,

California Energy Designs' engineers are the leading design experts in **Variable Refrigerant Flow (VRF)** systems from Mitsubishi, Daikin, LG and Samsung.



Delos™
Innovate Well



CALIFORNIA ENERGY DESIGNS

AIR QUALITY CONTROL

Ventilation, Filtration, and Temperature & Humidity Systems Engineered for Stringent Indoor Air Quality Requirements



COMPOSITES HORIZONS
a FCC Company



NOTABLE WORK:

From aerospace facilities for Boeing & Composite Horizons to pharmaceutical-grade clean-rooms for Amgen & In-Vitro allergen-testing firm, Hycor Biomedical, our team at California Energy Designs has the experience and know-how to work with the most stringent of air quality & control requirements.

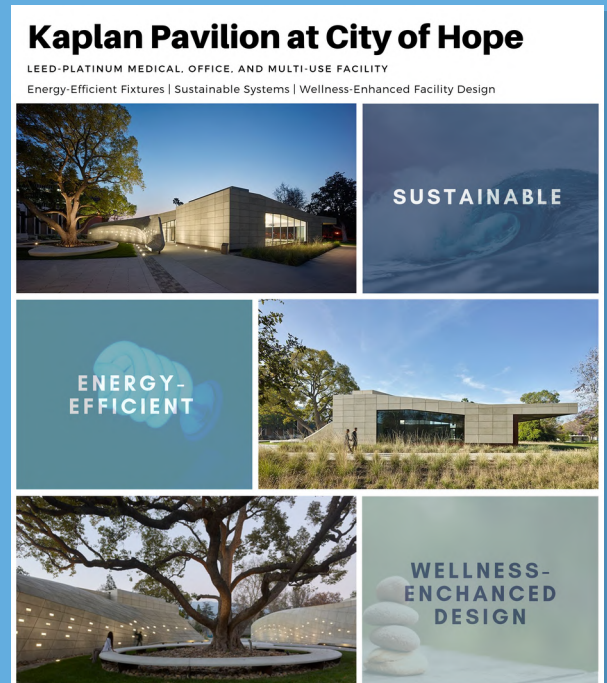
While air standards for such systems may vary—from ordinary wellness-design initiatives aimed at improving office environments to contamination-proof clean-rooms in aerospace facilities that build space-bound vessels—our commitment to ensuring each and every one of those standards is met remains unwavering.

For projects with specific temperature, humidity, and filtration requirements—with some facilities requiring filtration banks capable of extracting particulate matter down to infinitesimally-small fractions of a single micron—we have engineered solutions with extraordinary precision, allowing facility-control to an exacting degree.

OUR PROJECTS

With over 12,000 successful projects completed since its founding in 1977, California Energy Designs has been at the forefront of engineering innovation with energy-efficient HVAC, Plumbing, and Air Quality Control systems for over four decades.

Our diverse spread of projects includes multi-family & luxury residential, medical facilities, office buildings, pharmaceutical clean-rooms, and military bases. Included below are a few sample projects which provided an excellent opportunity for our talented team to truly showcase our innovative engineering approach.



PROJECT | KAPLAN PAVILION AT CITY OF HOPE



Fitting the shift towards a more holistic approach to healthcare, this project for the Kaplan Family Pavilion at City of Hope—a leading research and treatment center for cancer, diabetes and other life-threatening diseases—focused on the creation of sustainable environments designed to promote wellness.

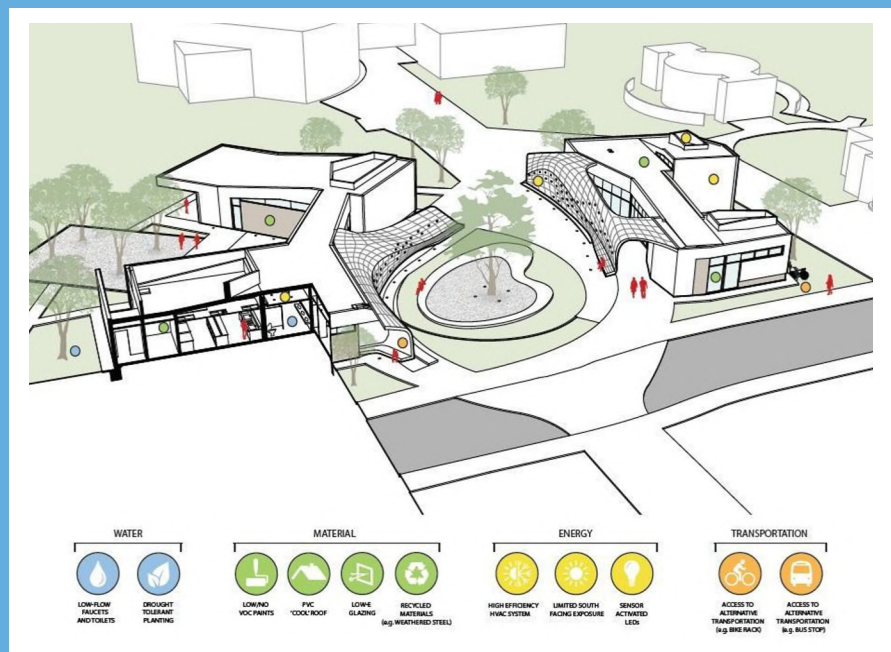
The resulting design—an innovative approach spearheaded by Belzberg Architects—fused form and function to achieve comprehensive energy savings that enabled a sustainable, wellness-enhanced environment.

Pairing structural features—such as the buildings' openness to the north, preventing excessive heat gain and exposure—with the latest in energy-efficient methodology—including a high-efficiency HVAC system, PVC "Cool Roof," and low thermal emissive glass—the collaborative approach produced a synergy between design and engineering, which paid dividends in the project's overall success.



The LEED Platinum-certified Pavilion achieved significant energy and resource savings while offering an uncompromising excellence in physical environment for staff and visitors alike, adding over 7,000 square feet of new space for exhibits, events, administrative offices, and storage.

Role: MEP Engineer



PROJECT | SHRINE AUDITORIUM



The Shrine Auditorium is a landmark large-event venue in Los Angeles, California. The largest theatre in Los Angeles, seating approximately 6,300 people, the Downtown L.A. cultural staple features a massive stage (at 194 feet in width and 69 feet in depth) that has housed both events, like the Academy Awards, and iconic concerts that include the likes of Elvis Presley and more contemporary artists like Radiohead.

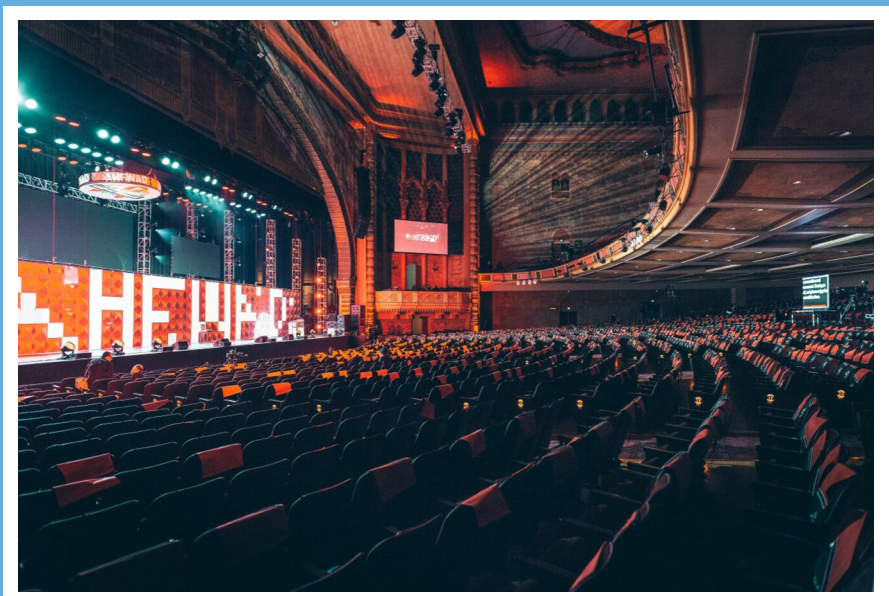
Originally built in the 1920's, before the most basic of refrigerants—*Freon*—was even invented, when the Shrine Auditorium began a comprehensive renovation project, it required an innovative and highly-capable engineering team to work within the difficult constraints of a landmark building.

A tall task, the goal was to devise a way to modernize the structure without invasive measures that could permanently alter the historic building. Our team at California Energy Designs was up to the task and began initial design and planning.

In the end, our engineers found a way to turn *restriction* into *opportunity*.

The venue utilized a large under-floor supply system with 100% fresh air and 100% exhaust. Within this framework, our team physically reversed the two 100,000 CFM supply fans, turning the under-floor supply plenum into a return.

Role: Mechanical Engineer



OUR PLANS

2020 & BEYOND

At California Energy Designs, our eyes are firmly set on *the horizon*. Our goal is always to surpass the triumphs of yesterday, to build better, to climb further, to outdo the wildest notions of what is *truly possible*.

We are excited to take each step in this wonderful journey, and always to ensure that it is not one *tread alone*. We have been very fortunate to have *excellent partners* who continue to chase the horizon *with us*. For that, we are ever *grateful*.

Thank you for reading.





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