



Mechanical Design Services

- Construction documents
- Prototype plan development
- Building envelope load calculations
- Energy simulations based on system type and fuel source
- Life cycle cost estimation for heating, cooling and ventilation systems
- Engineering construction cost estimation
- Construction phase services
- System commissioning
- System design
 - Air handling equipment for heating and cooling
 - Duct systems – all types (CAV, VAV, and of various pressures)
 - Chilled and hot water piping and pumping schemes
 - Boiler application, boiler plants and boiler plant control
 - Water chilling unit applications
 - Central plant design, central plant controls, and plant optimization
 - Geothermal systems
 - Water source systems – heat pumps and heat rejection
 - Building smoke evacuation systems
 - Building pressurization systems
 - Building automation systems and energy monitoring
 - Systems integration – combining multiple protocols on a common net
 - Ventilation schemes – outdoor air, energy recovery, natural ventilation
 - Clean room design
 - Controls validation
 - HVAC energy calculations for all model energy codes and California Title 24
 - Building envelope energy calculations for all model energy codes and Title 24
 - Computational fluid dynamics – airflow effectiveness and smoke plumes

Plumbing Design Services

- Construction documents
- Prototype plan development
- Construction phase services
- System design
 - Building storm drainage systems
 - Waste and vent piping systems
 - Domestic water systems
 - Energy conserving plumbing equipment
 - Solar water heating
 - All forms of kitchen facility plumbing including grease waste and interceptor design
 - Natural gas and propane piping systems
 - Compressed air
 - Rainwater collection
 - Fire protection systems – wet, dry, pre-action
 - Chemical-based critical area fire protection systems
 - Fire protection system water storage systems
 - Fire pumps

Electrical Design Services

- Construction documents
- Prototype power system development
- Construction phase services
- System design
 - Building electrical service entry and power distribution
 - Emergency, standby power and UPS
 - Branch circuit power distribution to appliances and equipment
 - Fire alarm systems
 - Grounding and lightning protection
 - 24/7 power distribution systems
 - Photovoltaics
 - Voice and data network cable design and infrastructure
 - Digital security system implementation

Lighting Design Services

- Construction documents
- Prototype lighting development
- Specialty lighting aiming plans and elevations
- Energy calculations for all model energy codes and California Title 24
- System design
 - Optimization and maximization of code lighting allowances
 - Room footcandle calculations
 - Exterior site lighting footcandle calculations
 - Special venue lighting
 - Lighting power distribution
 - High efficiency lighting design application with daylight harvesting
 - Digital automated lighting controls

Sustainable Design

- Sustainability strategies
- LEED® MEP documentation
- LEED® Accredited Professionals
- USGBC LEED® for Retail
- USGBC LEED® Volume certification
- Building energy optimization
- Building envelope performance optimization
- Energy modeling
- Utility optimization
- LEED® Commissioning
- EPACT Certification
- ENERGY STAR® Certification
- Energy Audits