M U R A R
ENGINEERING & DESIGN INC

RESUME: KEVIN MURAR

KEVIN M. MURAR
PERSONNEL QUALIFICATIONS

BORN: 18 May 1972

EDUCATION: University of Washington - Seattle, Washington
B.S. Civil Engineering – Structural Emphasis (1990 – 1994)
Graduated with Honors
Phi Sigma Kappa – 3.79 GPA

POST GRADUATION SEMINARS:

MIH Masonry Design Seminar	Honolulu, HI
AISC Mid Rise Building Design	Boise, ID
2006 IBC Wind and Seismic Design	Honolulu, HI
Structural Welding Code AWS D1.1	Boise, ID
ATC Seminar: Steel Moment Frame Structures	Seattle, WA
Seismic Response Spectra Geotechnical Seminar	Boise, ID
Non-Destructive Testing Evaluation	Sun Valley, ID
ASCE 7- 98 Wind Seminar	Cleveland, OH
MSJC Masonry Code Design	Boise, ID
Post – Tension Masonry Design	Sun Valley, ID
AISC Seismic Provisions Seminar 13th Edition	Portland, OR
Fundamentals of Seismic Design	Madison, WI
Cold Regions Engineering Course	Seattle, WA
Anchor Bolt – Appendix D design Seminar	Sun Valley, ID
NDS 2004 code review Seminar	Boise, ID
OSHA 10 hour Certification	Hailey, ID

PROFESSIONAL

PROFESSIONAL REGISTRATIONS:

Structural Engineer (SE):

Hawaii	PE 10704 S
Idaho	9215
Oregon	62665 PE

Professional Engineer (PE) Civil:

California	C61116
Washington	36351

PROFESSIONAL AFFILIATIONS:

Structural Engineer Association of Hawaii (SEAOH)
American Institute of Steel Construction (AISC)

MURAR Engineering and Design INC
PO Box 5651
Kailua-Kona, HI 96745-5651

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CAREER:

Murar Engineering and Design, Incorporated
PO Box 5651
Kailua-Kona, Hawaii 96745
April 2005 to Present.
Duties include: Structural Engineering, Project Management, Financial Analysis, Engineering and Estimating.
Position: President

Murar Engineering and Design, Incorporated
PO Box 5651
Kailua-Kona, Hawaii 96745
1994 to April 2005
Duties include: Structural Engineering, Project Management.
Position: Part Time

POWER Engineers, Incorporated
3951 Glenbrook Drive
Hailey, Idaho
October 1997 to 2002
Duties include: Structural Engineering, Project Engineer, and Estimating.
Position: Structural Area Lead

POWER Engineers, Incorporated
3951 Glenbrook Drive
Hailey, Idaho
2002 to April 2005
Duties include: Structural Engineering, Project Engineer, and Estimating.
Position: Structural Project Engineer

Bouiss and Associates
PO Box 563
Ketchum, ID 83340
April 1994 to October 1997
Duties include: Structural Engineering, Project Management, and Estimating.
Position: Structural Engineer

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DUTIES AND RESPONSIBILITIES

Project Manager:

- Review, prepare and execute Subcontracts. Acquire delivery schedules of all drawing deliverables. Prepare a schedule of the project as well as a three-week look ahead as updated weekly. Review and schedule manpower requirement. Supervise the staff engineers on a daily basis regarding quality, schedule, techniques and cost.
- Track and update the labor cost report and overall project cost on a weekly and monthly basis respectively.
- Track all deliverables
- Assist other project managers and engineers regarding conflicts, constructability, techniques, etc.
- Responsible for the overall outcome of the project.
- Prepare a budget for the project, including Labor and Material costs. Review Plans and Specifications for constructability.

Estimator:

- Assist and oversee the compilation of productivity rates of past and present projects for future reference. Review the drawings and specifications for scope, intent, and clarify inconsistencies.
- Solicit and acquire Subcontractors proposals for indirect work.
- Review said proposals regarding performance, scope, cost and completeness.
- Responsible for closing estimates and determining the applicable overhead and fee.
- Negotiate Projects directly with owners and Architects.
- Assist in Value Engineering/Cost Saving suggestions.

Structural Area Lead:

- Review the company financials; billings, receivables and cash flow on a monthly basis.
- Review the structural group workload; ongoing and upcoming projects to determine future requirements.
- Review the EPC (Engineer, Procure, Construct) Contract Agreements.

President:

- Review the company financials; billings, receivables and cash flow on a monthly basis.
- Review the company workload; ongoing and upcoming projects to determine future requirements.
- Evaluate the company certifications for government and large corporation contracts.
- Perform and oversee the duties and responsibilities of the Project Manager, Estimator and Structural Area Lead.
- Review the Contract Agreements.

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PERSONAL HISTORY

Mr. Murar attended the University of Washington in Seattle, Washington from 1990 to 1994. He studied Civil engineering and graduated with Honors and on the Deans List. During the summers, Mr. Murar interned with Ellis Don Construction Company. He spent his summers assisting the project managers in constructing several schools. East Ridge High School was the first project where he was full time during the summer. Ellis Don also built the physics building at the University of Washington. This internship introduced Mr. Murar to the intricate, and sometimes complicated, relationship between the contractor and design professionals. It allowed him to have a valuable insight into constructability of designs.

Upon graduation Mr. Murar moved to Ketchum, Idaho and worked as a staff structural engineer for Bouiss and Associates. While at Bouiss and Associates, Mr. Murar gained the experience necessary to achieve his professional engineer's license. The projects that Bouiss and Associates were doing at the time were high end residential projects and small commercial jobs. Mr. Murar did the calculations, client interface and drafting for these projects.

Growing up, Mr. Murar was surrounded by structural engineering projects. His father was the president of Murar Engineering and Design, formerly P2M Engineers. After graduating from college, Mr. Murar helped out his father on a moonlighting basis when assistance was needed in structural engineering.

In 1997 Mr. Murar joined Power Engineers in Hailey, Idaho. While at Power Engineers, Mr. Murar designed large industrial, commercial and facilities projects. Power Engineers is a multiple disciplinary engineering firm, and coordination between all disciplines was necessary when laying out the structural designs. Power Engineers had projects throughout the world and the nation. All of the codes and regulations for the different states and nations were to be followed for each project. This experience allowed Mr. Murar to sit for and pass the structural engineering exam (SE) allowing him to be licensed in California, Hawaii, Washington, Oregon, Idaho and Illinois. Site visits were a regular occurrence with the Power Engineers projects. This allowed Mr. Murar to travel and coordinate design and construction in places such as the Philippines, Costa Rica, Iraq, and throughout the United States. Towards the end of his work at Power Engineers, Mr. Murar was forecasting labor requirements, estimating budgets, negotiating with clients and leading the structural engineering department as well as continuing to be the structural lead designer on projects. While at Power Engineers, Mr. Murar was assisting Murar Engineering and Design in moonlighting work

In 2004, Mr. Murar realized there was a need for the services that Murar Engineering and Design was offering, and took over the main operations. With the client base established by his father's contacts, by the contacts he made from Power Engineers and the need for the structural engineering experience that was offered by Murar Engineering and Design, he has been able to expand the types of projects and clients serviced.

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PAST PROJECTS

GOVERNMENT/UTILITIES

Lydgate Substation Building, Lydgate, Kauai, Hawaii

A 6,000 SF concrete masonry building with 18 foot tall walls. The walls had to withstand hurricane force winds while supporting an overhead crane. The roof members were red iron trusses that had to be engineered for the loads. The truss system was modeled in 3D to study the forces.

Perini Corporation, Frame 6, 40 MW Simple Cycle Project, Nasiriyah, Iraq

Project Engineer responsible for overall design coordination for work as design engineer for Perini Corporation in the installation of a GE Frame 6 gas turbine for a 40 MW crude burning frame 6 combustion turbine in Nasiriyah, Iraq. Mr. Murar spent 10 weeks on site providing engineering support during the construction process. The project was overseen by the United States Army and the DoD.

Figure 1 - Generator Being Delivered in Iraq

Marine Corps Base, RCP Shelter Structure, Kaneohe, Hawaii

Provided structural engineering support for RCP structures for a 600 square foot structure located in the VE coastal flood zone. Designed for hurricane and flood loads. Project consisted of a tapered glu lam timber framed structure.

Department of Transportation, Storage Building, Walla Walla, Washington

Structural Engineer responsible for foundation design for a 9,000-square-foot vehicle storage building. Mr. Murar had to work closely with the government agencies to assure that government standards for design were being met.

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GOVERNMENT/UTILITIES – Continued

Benton County P.U.D., 25 MW Gas Turbine Peaking Plant, Washington

Structural Engineer responsible for structural engineering and construction services for the Finley Combustion Turbine Plant, installed at a Benton County P.U.D. site in Washington. The combined-cycle generation plant is based on a Pratt & Whitney FT-8 Power Pac gas turbine in simple cycle.

Malburg Project, City of Vernon, California

Lead Structural Engineer for on a 138 MW natural gas-fired, combined-cycle electric generation facility. The project involved complex structures and foundations in a seismic zone 4. The foundation types included drilled concrete pier, large cooling tower basins and mass concrete isolated foundations.

Figure 2 - Malburg HRSG's

Port of Columbia County, Office Complex, Dayton, Washington

Structural Engineer responsible for the design a 7,000-square-foot office complex and 8,000-square-foot incubator business building. The project required foundation and concrete masonry design.

School District #140, File Depository Room, Walla Walla, Washington

Structural Engineer for the design of a steel and concrete file depository room estimated to have a 100-year life span. The project required modifications to existing steel beams, columns and foundations. Extensive concrete work was required to assure the depository was safe to fire and explosions.

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GENERATION

Sheraton – Poipu Chiller Enclosure, Poipu, Kauai, Hawaii

Retrofitted an existing structure built around a new chiller building to comply with the hurricane forces of the area. Performed a site visit and solutions to existing conditions to reinforce the existing structure.

Mitsubishi Heavy Industries, Mindanao II Geothermal Project, Philippines

Structural Engineer responsible for design of structures, vessel supports, and foundations for a 52MW geothermal power plant, the sister plant of the Mindanao I Power Plant completed in 1997. Provided on-site support during construction phase.

Figure 3 - Mindanao II Geothermal Project

Mitsubishi Heavy Industries, Miravalles III Geothermal Project, Costa Rica

Structural Engineer responsible for design of structures, vessel supports, and foundations for a 35MW geothermal power plant. Engineered a 300 foot x 100 foot x 60 foot tall steel building enclosing the turbine and generator. The steel building incorporated cross bracing and moment frames. The building site was in a zone 4 seismic area. Provided on-site support during construction phase.

Mitsubishi Heavy Industries, Olkaria II Geothermal Project, Kenya

Lead Structural Engineer responsible for the design of vessel and pipe supports and the equipment catwalks and platforms for a two-unit single-flash 64 MW geothermal power plant built by Mitsubishi in the Rift Valley of Kenya.

Figure 4 - Olkaria II Project

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GENERATION – Continued

Calpine Corporation, Various Upgrade Projects, The Geysers Geothermal Field, California

Structural Engineer involved in field and office engineering for various upgrade projects at an existing geothermal plant. Projects included work on inter/aftercoolers, heat exchangers, SO4 removal structure, etc. The Geysers geothermal field, with approximately 1,100 MW of generation installed, is the largest geothermal power resource in the world.

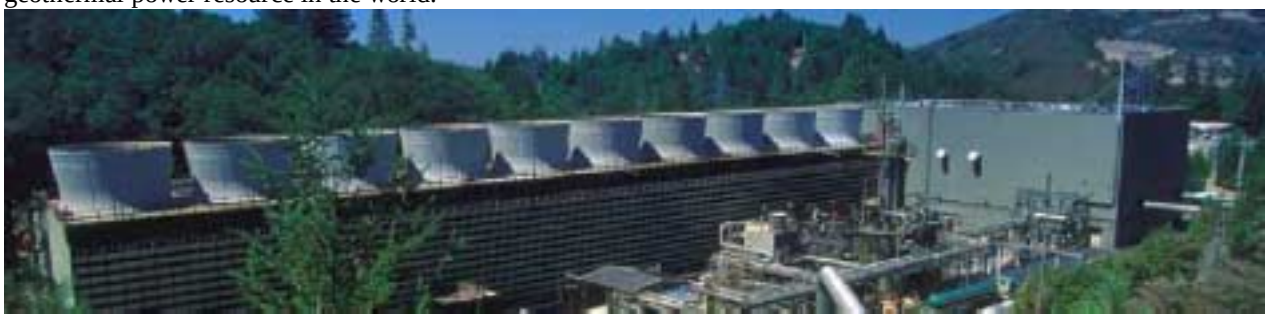

Figure 5 - Calpine Geysers Project

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FACILITIES

Trane Corporation, El Dorado Resort Chiller Support, Kana'apali, Maui, Hawaii

Designed the foundation and retaining walls for a new chiller located on Maui. The area required several site visits to determine the locations of existing utilities and pipe routing requirements. The retaining wall was poured monolithically with the mass concrete for the chiller foundation

Chevron Richland Refinery Turbogeneration project, California

Structural Engineer responsible with the design of structural elements for new 30 megawatt refinery cogeneration project. Designed the support for the pipe and electrical system distribution re-route. Designed the high pressure steam line for support on existing refinery pipe supports and new supports.

Figure 6 - Chevron Richmond Refinery

Kilgarven Wind Farm, Kilgarven, Cork County, Ireland

Structural Engineer responsible for the foundations of 45 meter and 60 meter tall wind turbines. 15 Vestas 3 MW turbines were installed. The overall project was 45 mega watts. Foundations were placed on previous peat bogs and had to be over excavated and improved. The foundations were modeled in 3D and the layouts were coordinated with the turbine manufacturer.

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FACILITIES – Continued

Puna Geothermal Venture, New Well Interconnection, Pahoa, Hawaii

Lead Structural Engineer responsible for platform and pipe support design for an additional resource well being added to an existing steam field supplying a geothermal power plant. The project required steel and foundation design for several access platforms and pipe supports.

Figure 7 - Puna Wellhead Structure

Sun Power Corporation, Roof Certification, Hawaii

Reviewed and provided calculations for existing buildings to verify the capacity for support of photovoltaic panels and equipment. Provided guidance to Sun Power for the best suitable locations of equipment strongest staging areas of the buildings. Projects included:

- Koyo, Kona, Big Island
- Macy's, Pearlridge, Honolulu, Oahu
- Macy's Oahu Distribution Center, Honolulu, Oahu-
- Macys Ka'ahumanu Mens and Womens, Kahului, Maui-
- Macy's Prince Kuhio Mall Mens and Womens, Hilo, Big Island
- Macy's Grove Farm Shopping Center, Lihue, Kauai
- Longs Drug, Kihei, Maui
- Longs Drug, Kula, Maui.

Chevron/CABGOC, Takula Production and Pumping Platform Power System Expansion, Cabinda, Angola

Structural Engineer responsible with the design of structural elements for new equipment and accesses for a power system expansion on an existing pumping and injection platform. The project required extensive steel design.

Trane Corporation, Mid Pacific Institute Ice Tank Foundation, Honolulu, Hawaii

Provided special inspection for tank foundations for a multiple ice tank facility. Provided inspections for reinforcement, subgrade preparation and formwork layout.

FACILITIES – Continued

Kona Blue Ice Silo Foundation, Kona, Hawaii

Designed and inspected the foundation for a 45 foot silo used to store ice. Design of foundation was sized to resist hurricane forces and the highest seismic loads. The foundation was socketed into the intact lava rock to minimize mass concrete. The foundation was modeled in 3D to optimize the reinforcement and concrete.

California Technical Institute of Technology Submillimeter Telescope, Mauna Kea, Hawaii

Modeled a quadrant of the existing Caltech observatory to assess the capacity of the existing members to support a new jib crane. The crane was relocated to move equipment. A full report and of the findings and details were supplied for the required support.

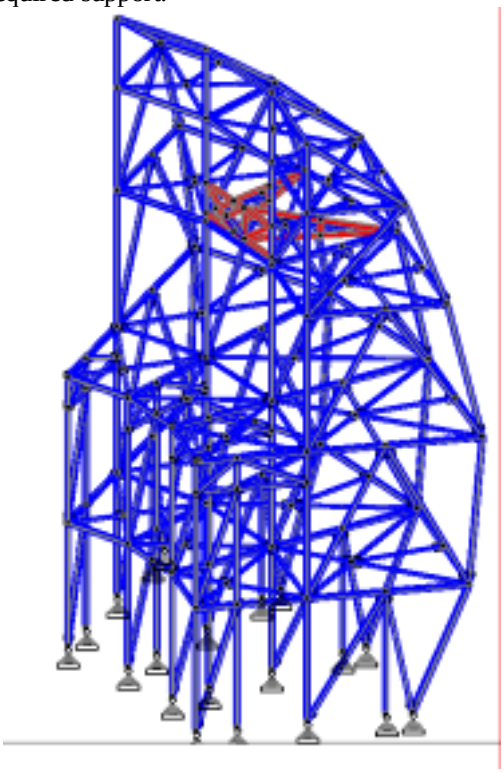

Figure 8 - Model of Portion of Caltech Observatory

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ARCHITECTURAL/COMMERCIAL

Kanu O Ka Aina School, Waimea, Hawaii

Designed the light gauge steel structure for a single story trusses roof educational institution building. The building was originally designed with timber framed studs, and was redesigned to be used with steel studs.

Kaloa Landing, Kauai, Hawaii

Designed the curtain wall for 10 condominium structures. The scope of work included providing shop drawings, detail and calculations for a curtain wall between post tensioned slabs. Designed for hurricane force winds. Utilized deflection tracks and materials per the contractors request to optimize the construction budget.

Allure Condominium, Waikiki, Hawaii

Designed the connection of the pre-fabricated steel trusses for the 38 story condominium building on the Alawai canal. The building had gone through wind tunnel testing and the developed forces were used to design connections of the trusses to the post tensioned concrete slab. Innovative and new connections were required for the forces that were developed.

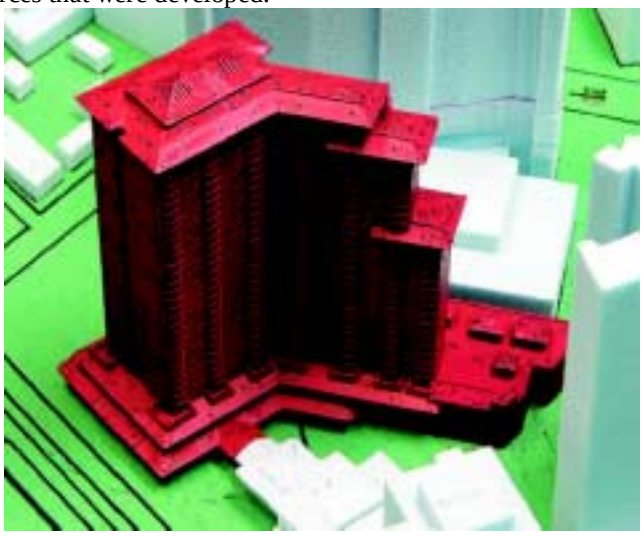

Figure 9 - Allure Model for Wind Testing

Lokahi Kau Apartments, Kailua-Kona, Hawaii

Designed buildings for a 21 building apartment complex. Each building was 3 stories tall with the wood truss design. The framing was designed for panelized construction. The projects were in high seismic and high wind environments. The project was designed for affordable housing.

ALCATEL, Cell 7 and 8 Fiber Optic Facility, Claremont, North Carolina

Structural Engineer for Cell 7 and Project Engineer for Cell 8 responsible for the structural engineering and the coordination of the design team for a seven-story 138,000-square-foot fiber optics draw tower at a fiber optic manufacturing facility. The design incorporated civil, structural, architectural, process piping, HVAC and electrical disciplines. The 100 foot structure used field welded moment frames with slab on deck.

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ARCHITECTURAL/COMMERCIAL – Continued

Americold Company, Multiple Projects, Portland, Oregon

Structural Engineer responsible for the design of cold storage facilities with offices, truck and railroad docks. The projects required foundation design, utility culverts and steel support platforms for condensing units and refrigerant piping. The facilities, ranging in size from 80,000 square-feet to 160,000 square-feet, are located in Idaho, Oregon, Washington, Illinois, and Wisconsin. Many of the foundations required design for the long span structures.

Le Jardin Academy Roof Trusses, Kailua, Oahu

Provided calculations for cold formed steel trusses for a new school building on Oahu. The project required hurricane force winds and greater importance factors for school buildings. Coordinated design of the truss with the contractor to develop cost effective connections for the trusses. Each truss was dimensioned and laid out.

Cedars Inn Hotel, East Wenatchee, Washington

Structural Engineer for a 150 room timber framed 3 story hotel structure. The lateral support was through timber shear walls The structure used steel columns to support larger timber and steel beams. The design included a cantilevered steel moment frame over an open full span pool area.

Figure 10 - Cedars Inn Hotel

Snow Basin Ski Resort, Snow-Making Facility, Snow Basin, Utah

Provided construction support, both on-site and in-office, for a new snow-making building owned by Sinclair Oil Company. The building was a masonry exterior wall design with fabricated metal roof joists in heavy snow load environment.

Alawai Condominiums, Honolulu, Hawaii

Designed the curtain wall for an 8 story condominium structure. The scope of work included details and calculations for a curtain wall between post tensioned slabs. Designed for hurricane force winds. The design required a quick turn around to verify the products that the contractor had purchased would conform to the structural calculations.

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ARCHITECTURAL/COMMERCIAL – Continued

Barragan Condominiums, Santa Barbara, California

Provided structural engineering calculations for a 6,000 SF condominium complex in Santa Barbara, California. The calculations were reviewed by a third party. Mr. Murar supported the Architect in answering the requests of the third party and satisfying the calculation requirements.

Wailea Elua Village Condominium Renovation, Wailea, Maui, Hawaii

Structural engineer for a remodel to the common pavilion structure in a condominium project located in the shoreline flood area. Included the use of existing concrete masonry and heavy timber. Provided site visit support. Project concluded ahead of schedule and ahead of budget.

Figure 11- Wailea Elua Village

Woodward Canyon Winery Building, Walla Walla, Washington

Designed the structural aspects of a 4,500 SF commercial winery building with tasting facilities, kitchens, cellars and a library. Worked closely with the Architect to use finish treatment for structural strength (eg. rough sawn 2x6 ceiling with 1 ½ foam insulation and 3" concrete for a floor).

Baker Boyer Bank, Walla Walla, Washington

Structural Engineer responsible for the design of a steel moment frame with a cantilevered foundation of a canopy for a drive-through teller window. The foundation was designed with zero clearance from the support point to an existing foundation.

Bellevue Square Building 733, Bellevue, Idaho

Structural engineer on a 10,000 two story office complex designed with Insulated Concrete Forms (ICF). The store front required a concrete moment frame to preserve the valuable store front window area. The building is in a high snow and moderate seismic area.

Hailey Business Park South, Hailey, Idaho

Structural engineer on a 31,000 two story office complex designed with Insulated Concrete Forms (ICF) and parallel chord wood trusses spanning up to 30 feet. The building is in a high snow area, moderate seismic and required a third party review of the calculations.

ARCHITECTURAL/COMMERCIAL – Continued

Whitman College, Harper Joy Theater Remodel, Walla Walla, Washington

Re-designed the catwalk system for the Harper Joy Theater. The structural engineering required the determination of the existing roof system and its capacity for the new cat walk and equipment loads.

Northwest Winery Structures, Structural Designs, Southwest Washington

Structural Engineer responsible for the design of foundation, concrete masonry, wood frames and support pads for 20,000 gallon fire storage water tanks, located at

- L'Ecole Winery
- Mill Creek Winery
- Three Rivers Winery
- Waterbrook Winery
- Kiona Winery
- Woodward Winery

Attention to aesthetics played a major role in the structural design of these projects.

Figure 12- Three Rivers Winery

Village Green Apartments, Pullman, Washington

Structural design for three types of apartment structures in an apartment complex. The structures included a one bedroom structure, a two bedroom unit structure and a vehicle storage garage. The structures were 3 story wood framed buildings with snow and seismic loads

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