



Cascade Middle School

Owner: Cascade Middle School
2821 Parkview Drive
Longview, WA 98632

Original Construction

Cost: \$8,400,000.00

Design Estimate: \$8,400,000.00

Low Response Bid: \$8,348,000.00

Final Construction

Cost: \$8,000,000 (Total)
\$3,500,000 (RAE)

Completion Date: August 2004

Owner's Rep: Bob Pierce
Longview School District
2080 38th Avenue
Longview, WA 98611
Tel: 360.575.7854

Architect: Northwest Architectural Co.
2201 Sixth Avenue, Suite 1405
Seattle, WA 98121
Contact: Bob Bryan

Work Included: Modernization and addition to existing 100,000 sq. ft. middle school. Replaced existing gas and electric boilers with two new 1,300 MBH gas boilers. Provided design for pumps and all new hydronic equipment for this project. Provided complete HVAC system design including four pipe fan coil units, heat exchange units and chiller. Project also included new DDC system, domestic water system, plumbing fixtures, and new fire sprinkler protection system. Electrical design included replacement of entire lighting and power distribution systems, including new building service, switchboard, and panelboards throughout. Design also provided for new telecommunications, fire alarm, intercom, CCTV/ CATV, and security systems.

Challenges included maintaining a portion of the existing building heating system for use until after completion of a second project. At that time, the portion of the building being served by the system is to be demolished.

Project Personnel: Rod Roche, P.E. Project Manager, Electrical Lead
Henry Romer, P.E. Mechanical Lead





SeaTac Occupational Skills Center

Owner: SeaTac Occupational Skills Center
18010 8th Avenue South
Burien, Washington 98166

Engineer Estimate: \$380,792.00

Low Bid: \$409,000.00

Construction Cost: \$417,500

Completion Date: March 2003

Owner's Rep: Gerald Hanlon
Department of General Administration
Division of Engineering and Architectural Services
206 General Administration Building
P.O. Box 41012
Olympia, Washington 98504
Tel: 360.902.7234



Work Included: Mechanical and electrical design to upgrade HVAC system, including new central boilers and chillers. Provided design of new central boiler and chiller, minimum level of hydronic pumps, and piping to serve vase bin fan/coil units. Work in the shops will include duct modifications to accommodate new fan/coil units and minor exhaust changes for air balance. Electrical system designs included modification of power distribution system as required to support new equipment.

Project Personnel: George Richmond, P.E. Project Manager, Mechanical Lead
Rod Roche, P.E. Electrical Lead

Washougal High School

Owner: Washougal High School
2349 B Street
Washougal, WA 98671

Engineer Estimate: \$3,016,004.00

Low Bid: \$3,188,700.00

Construction Cost: \$15,204,000.00 (Total)
\$3,149,004.00 (RAE)

Completion Date: September 2001

Owner's Rep: Bob Donaldson
Washougal School District
1201 39th Street
Washougal, WA 98671
Tel: 360.954.3100

Architect: JFC Architects
7510 NE Vancouver Mall Drive, Suite 200
Vancouver, WA 98671
Contact: John Crook

Work Included: Mechanical design for modernization and addition to a 145,000 square foot high school and stadium. Additions include gym, choir and science spaces. Provided design for new HVAC, plumbing, DDC controls, and fire sprinkler. Special phasing was required to allow for operation of the existing boiler and heating water systems during construction. Phasing details were carefully developed to assure that spaces were not "orphaned" by demolition or new construction blocking access to ventilation openings. Existing below grade piping was maintained until all new piping was installed. All of the phasing efforts allowed for this extensive project to take place while the building was still in use for education purposes.

Project Personnel: Henry Romer, P.E. Project Manager, Mechanical Lead
Rod Roche, P.E. Electrical Lead
Kim Adamson Mechanical Engineer





Thurston Co. Courthouse HVAC Upgrade – Constructability Review

Owner: Thurston County Central Services
2000 Lakeridge Drive SW
Olympia, WA 98502

Owner's Rep. Ralph Anderson
Project Manager
Special Project Division
2000 Lakeridge Drive SW, Building 1
Olympia, WA 98502
Tel: 360.754.4650



Work Included: Review of boilers, propane back-up fuel, chillers, cooling tower, pumps, piping, controls, and electrical power plans for upgrade to the Thurston County Courthouse Complex. The system design included three boilers with 1,895 MBH output each. Provide a detailed report product suitable for review by county staff and submitted to the design consultants for action and comments.

Project Personnel: George Richmond P.E. Project Manager, Mechanical Engineer
Henry Romer, Ph.D., P.E. Mechanical Engineer
Brad Barbo, P.E. Electrical Engineer,



Anchorage Processing & Distribution Center

Owner: United States Postal Service
Anchorage Processing
and Distribution Center
Anchorage, AK 99505

Engineer Estimate: \$311,000.00

Low Bid: \$331,000.00

Construction Cost: \$343,650.00

Completion Date:

Owner's Rep. Richard Sands,
USPS Western Region, Project Manager
United States Postal Service
34301 9th Avenue South
Federal Way, WA 98603
Tel: 253.874.7289



Work Included: Rebuild one of the existing boilers, boiler size 6,000 MBH, for temporary use while proceeding with furnishing and installing a new replacement. Furnish and install new boiler in parallel with existing boiler system. HVAC upgrade, repair and renovation of facility, while the building was occupied. Replacement of major portions of the existing HVAC system including boilers, chiller, air handling units, ducts and other elements. Replace portions of the existing fire alarm system with new DDC controls and card access.

Project Personnel: George Richmond, P.E. Project Manager, Mechanical Lead
Rod Roche, P.E. Electrical Lead



United States Postal Service
Seattle P&DC HVAC Replacement Project, Phases 1 & 2

Owner: United States Postal Service
Processing and Distribution Center
34301 9th Ave. S
Federal Way, WA 98063-0500

Original Construction

Cost: \$32 Million

Design Estimate: \$30 Million

Low Response Bid: \$25.072 Million

Final Construction

Cost: \$30,955,571.00
\$9 Million (RAE)

Completion Date: February 2003

Owner's Rep: Richard A. Sands
United State Postal Service
Seattle Domicile Facility Service Office
34301 9th Ave. S
Federal Way, WA 98063
Tel: 253.874.7289



Work Included:

Part I Complete replacement of HVAC equipment and DDC system for 500,000 square feet mail processing facility. Facility operates 24/7. Electrical included system modifications to accommodate revisions to mechanical systems, and selected lighting upgrades/replacements.

Part II Exterior lighting modification on the north side of building and south parking lot area lighting. Power and control system for vehicle gates. Access control system for personnel and vehicles.

Project Personnel: George Richmond, P.E. Project Manager, Mechanical Lead
Henry Romer, P.E. Mechanical Lead
Rod Roche, P.E. Electrical Lead



Tacoma General Mail Facility

Owner: United States Postal Service
Tacoma General Mail Facility
4001 S. Pine Street
Tacoma, WA



Original Construction

Cost: \$1,350,000.00

Design Estimate: \$1,350,000.00

Low Response Bid: \$1,300,000.00

Final Construction

Cost: \$1,688,379.00

Owner's Rep: Mary Lee
United States Postal Service
Seattle Domicile Facility Service Office
34301 9th Avenue South
Federal Way, WA 98603
Tel: 253.874.7280

Work Included: Complete replacement of the HVAC system in an existing 200,000 square foot building. Mechanical and electrical design included adding a 300 ton central chiller plant with all associated pumps and hydronic equipment. A new four million BTU central boiler plant was also included in the design. Hydronic piping was replaced throughout the building. An electrical upgrade was designed to support the new HVAC equipment, and direct digital controls were added throughout the facility. All work took place with the facility occupied.

Project Personnel: George Richmond, P.E. Project Manager, Mechanical Lead