COMBINED STATE LABS STUDY
A/E #2018-50-1

Montana State University Billings
Science & Allied Health Building

RPA

GPD PC CONSULTING ENGINEERS

RFD

DSArchitects
Dowling Studio Architects, PC

July 26, 2017

Mr. Russ Katherman, Administrator
Architecture & Engineering Division
1520 East Sixth Avenue, Rm 33
PO Box 200103
Helena, MT 59620-0103

Re: Combined State Labs Study, A/E #2018-50-01

Mr. Katherman and members of the Selection Committee;

Dowling Studio Architects, PC has teamed with Research Facilities Design (RFD), GPD, PC and Robert Peccia & Associates for the Combined State Labs Study. We respectfully submit our qualifications for your consideration. Our team has extensive experience working together and with MSU on Lab projects.

We understand that this project looks to gain efficiencies by combining facilities under one roof. We have reviewed the information forwarded to us by Shauna Albrecht with LFD and are up to speed with the goals of the project. Richard Heinz from RFD also provided early information for the project planning and budgeting.

We are excited about the opportunity to work with the State and Montana State University this exciting project. We sincerely hope we have a chance to interview with you and show you our approach to your project.

Sincerely,

Michael W. Dowling

Michael W. Dowling, AIA, NCARB
President, Dowling Studio Architects, PC

DSArchitects

STATE OF MONTANA

STATEMENT OF QUALIFICATIONS for Specific Projects

PROJECT FOR WHICH THE FIRM IS SUBMITTING

A/E Project Name & Location (list only one project; provide separate Form 115 for each project):	A/E Project #:
COMBINED STATE LABS STUDY	2018-50-01

PRIME FIRM INFORMATION

Firm Name:	**Dowling Studio Architects, PC**	Contact(s)	Name	Email Address
Address: (provide mailing address also if different)	55 West 14th Street, Suite 103 Helena, MT 59601	Principal: Project Mgr: Project A/E:	Mike Dowling Mike Dowling Scott Deitle	mdowling@dsa-mt.com mdowling@dsa-mt.com sdeitle@dsa-mt.com
Phone #: Fax #:	406-457-5470 406-495-0063			

CATEGORIES OF WORK FOR CONSIDERATION

ARCHITECTURAL:		ENGINEERING:	
General Practice	x	Mechanical	
Historic Restoration	x	Electrical	
Exterior Envelope	x	Structural	
Master Planning/Programming	x	Civil	
Interior Design	x	Environmental	
		AV/Comm/Data/IT	

SPECIALTY/OTHER:		LANDSCAPE ARCH:	
Acoustics		General Practice	
Commissioning		Master Planning	
Construction Management		Environmental	
Geotechnical/Materials Testing			
Haz Materials Testing/Mitigation			

FIRM PROFILE

Year Firm was established:	**2003**
# of Offices in Montana (provide address & contact list if more than one):	**1**

TOTAL PROFESSIONALS/PERSONNEL (provide total & location-specific list):

Architects	**3**	Mechanical	
A.I.T.	**2**	Electrical	
Interior Designer		Structural	
Landscape Architect		Civil	
Specification Writer		E.I.T.	
Cost Estimator		Environmental	
Construction Administrator		Energy Analysis	
Production Staff		Commissioning	
Accounting		Other (provide list)	
Administrative Support	**2**		

MSU Gaines Hall

LABORATORY DESIGN CONSULTANT

Firm Name:	**Research Facilities Design RFD**	Contact(s)	Name	Email Address
Address: (provide mailing address also, if different)	3965 Fifth Avenue, Suite 400 San Diego, CA 92103	Principal-in-Charge: Project Manager:	Richard M. Heinz, FAIA, NCARB, LEED AP John G. Lewis	rmh@rfd.com jgl@rfd.com
Phone #: Fax #:	(619) 297-0159 (619) 294-4901			

MECHANICAL ENGINEER FIRM INFORMATION

Firm Name:	**GPD, PC**	Contact(s)	Name	Email Address
Address: (provide mailing address also if different)	524 1st Avenue South Great Falls, MT 59401	Principal: Project Mgr: Project A/E:	Dave Broquist Mike Bender	dbro@gpdinc.com bender@gpdinc.com
Phone #: Fax #:	406/452-9558 406/727-9720			

ELECTRICAL ENGINEER FIRM INFORMATION

Firm Name:	**GPD, PC**	Contact(s)	Name	Email Address
Address: (provide mailing address also if different)	524 1st Avenue South Great Falls, MT 59401	Principal: Project Mgr: Project A/E:	Bucky Kempa Brad Kauffman	bucky@gpdinc.com bradk@gpdinc.com
Phone #: Fax #:	406/452-9558 406/727-9720			

CIVIL ENGINEER FIRM INFORMATION

Firm Name:	**Robert Peccia & Associates**	Contact(s)	Name	Email Address
Address: (provide mailing address also, if different)	3147 Saddle Drive P.O. Box 5653 Helena, MT 59601	Principal: Project Mgr: Project A/E:	Jeff Key, PE Craig Jenneskens, PE, LEED Site Development Group Manager	jkey@rpa-hln.com cjenneskens@rpa-hln.com
Phone #: Fax #:	406-447-5000 406-447-5036			

Montana State University
Gaines Lecture Hall

PROVIDE BRIEF RESUME OF KEY PERSONS OF PRIME FIRM ASSIGNED TO THIS PROJECT

Name: Title: Firm Name: Role on This Project: Years w/ This Firm: Education (degree/year): Active Registrations: DSArchitects	**Mike Dowling, AIA** Principal in Charge **Dowling Studio Architects, PC** Principal in Charge 15 Masters of Architecture, MSU 2009 Bachelor of Architecture, MSU Graduate with highest honors, 1989 Licensed Architect, Montana Licensed Architect, North Dakota Licensed Architect, South Dakota Licensed Architect, Washington National Council of Architectural Registration Boards	Experience & Qualifications Relevant to This Project:	Mike has 25 years experience in commercial architecture and has been managing an architectural practice for 20 years. His background in master planning and the design of medium to large scale buildings, forms the basis for the firms commercial work. Complex building programs and complicated addition/remodel work has been a large portion of his experience over the past several years. As president of DSA, Mikes responsibilities include firm management, design, project management and marketing. Relevant projects include: • MSU Instruction Labs Renovations, 2017; Cobleigh Hall 602 & 620, Gaines Hall 210, 216, 218, 245, 247, 249, Lewis Hall 107, Linfield Hall 120; Principal in Charge • MSU Billings Science & Allied Health Building; Principal in Charge • MSU Gaines Hall Renovation/Addition; Principal in Charge • MSU Temporary Labs; Principal in Charge • Carroll College Civil Engineering Lab Expansion; Principal in Charge • Carroll College Civil Engineering Lab; Principal in Charge • Energy Laboratories, Helena; Principal in Charge

Name: Title: Firm Name: Role on This Project: Years w/ This Firm: Education (degree/year): Active Registrations: DSArchitects	**Scott Deitle, AIA** Project Architect **Dowling Studio Architects, PC** Project Architect 1 Bachelor of Arts in Environmental Design, MSU 2007 Master of Architecture, MSU 2012 Licensed Architect, Montana American Institute of Architects National Council of Architectural Registration Boards	Experience & Qualifications Relevant to This Project:	Scott is a design oriented architect with professional experience reaching back to 2008. Project experience ranges from small commercial, tenant improvements and civic projects through large scale offices, breweries, school and an airport. His passion for design and creativity has made him a great addition to the firm. Scott's role as a designer and project manager allows him to be involved in most projects at DSA providing valuable input and guidance on projects. • Carroll College PE Complex Entry and Interior remodel; $1.8M. Design through CD's; Project Architect • HPER Fitness Center; $3M, 18,000 s.f.; Montana Tech. Concept Design through Construction; Staff Architect • Red Rocks Credit Union; $8.5M, 29,000 s.f; Littleton, CO. Design through Construction. Project Manager/lead design • Office Building; $7.9M, 29,000 s.f.; Littleton, CO. Project Manager • LAX Terminal Expansion; $1.4B, 800,000 s.f.; Schematic Design through Construction Documents; Intern Architect

PROVIDE BRIEF RESUME OF KEY PERSONS OF PRIME FIRM ASSIGNED TO THIS PROJECT

Name: Title: Firm Name: Role on This Project: Years w/ This Firm: Education (degree/year): Active Registrations: 	**William Grant, AIA** Project Manager **Dowling Studio Architects, PC** Project Manager/Architect 2 Bachelor of Architecture, University of Idaho, 1978 Licensed Architect, State of Montana American Institute of Architects	Experience & Qualifications Relevant to This Project:	Bill has 32 years experience in commercial architecture. His background in the design of small to medium scale buildings forms the basis of his residential, office, small government and educational experience. Attention to detail, coordination of documentation, construction administration and Building Information Modeling highlight Bill's skill set. As a senior Architect at DSA, Bill's responsibilities include design, project management, construction administration and specification writing. • MSU Instruction Labs Renovations, 2017; Cobleigh Hall 602 & 620, Gaines Hall 210, 216, 218, 245, 247, 249, Lewis Hall 107, Linfield Hall 120; Project Manager • Hawthorne Elementary School Addition/Remodel, 2018; Project Manager • Washington Middle School Addition/Remodel, 2017; Project Manager Browning School District No. 9 • Renovation to Basement, Browning, MT - $142,000 • Vo-Tech / Sports Building, Browning, MT $1,833,000 • Vo-Tech Building, Preliminary design for new high school site • Modular Classrooms, Browning, MT - $200,000 • New High School - Browning, MT, As a consultant Construction Administrator to the Engineer and Architect - $18,000,000.00 City & County Government • Glacier County, MT: Social Services Office Addition, Browning Town Site $60,000 • Town of Browning: City Hall & Addition $225,000; City Landfill & Refuse Transfer Building $175,000 • Town of Shelby: Fire Hall $1,449,000

PROVIDE BRIEF RESUME OF KEY PERSONS OF PRIME FIRM ASSIGNED TO THIS PROJECT

Name: Title: Firm Name: Role on This Project: Years w/ This Firm: Education (degree/year): Active Registrations: DSArchitects	**Michael Frudakis** Intern Architect **Dowling Studio Architects, PC** Project support 3 New York Institute of Technology, Bachelor of Science in Architectural Technology, 2012 American Institute of Architects National Council of Architectural Registration Boards	Experience & Qualifications Relevant to This Project:	Michael Frudakis joined DSA in 2015. He completed a formal education at the New York Institute of Technology with a Bachelor of Science in Architectural Technology in 2012 . For the past five years Michael has gained significant professional experience designing and managing multimillion dollar projects all throughout New York . His role is to manage projects from conception through closeout by coordinating all phases of architecture. Michael has diverse design skills that make him a valuable member to the DSA team. His technical skills include proficiency in Revit, Photoshop, AutoCAD, and 3D printing. In his time at DSA he has shown to be a diligent individual who takes the initiative to complete projects. • MSU Instruction Labs Renovations, 2017; Cobleigh Hall 602 & 620, Gaines Hall 210, 216, 218, 245, 247, 249, Lewis Hall 107, Linfield Hall 120; Project Support • Carroll College PE Complex renovations, in design, Exterior upgrades, locker room(s) remodels, concessions, athletic programs; Project Support • Carroll College Student Activity Center, $6M; 26,000 s.f.; Multipurpose Athletic Court, locker rooms, multi-purpose rooms, climbing facility, cardio, circuit and weight areas, racquetball court, outdoor rec programs; Project Support • DNRC Office Building, Helena, MT. $7.5M, 39,900 s.f.; 3 story office building and Parking Structure. Construction Administration

Name: Title: Firm Name: Role on This Project: Years w/ This Firm: Education (degree/year): Active Registrations: DSArchitects	**Mathew Friedmeyer** Intern Architect **Dowling Studio Architects, PC** Project support 4 Savannah College of Art and Design. Bachelor of Fine Arts in Architecture, 2013 SCAD Masters of Architecture, 2014 American Institute of Architects National Council of Architectural Registration Boards	Experience & Qualifications Relevant to This Project:	Matt joined DSA in 2014 upon graduation from the Savannah College of Art and Design with his Masters degree. His role is architectural support in all areas within the firm. He has excellent graphic skills and is a valuable member of our design team. Fluent in many computer programs, Matt has strong skills in Revit, Photoshop and our computer rendering programs. In his time at DSA he has shown to be a quick learner and is sensitive to our clients needs. • MSU Instruction Labs Renovations, 2017; Cobleigh Hall 602 & 620, Gaines Hall 210, 216, 218, 245, 247, 249, Lewis Hall 107, Linfield Hall 120; Project Support • Carroll College PE Complex renovations, Exterior upgrades, locker room(s) remodels, concessions, athletic programs; Project Support • Carroll College Student Activity Center, $6M; 26,000 s.f.; Multipurpose Athletic Court, locker rooms, multi-purpose rooms, climbing facility, cardio, circuit and weight areas, racquetball court, outdoor rec programs; Project Support • Central Valley Fire District: Belgrade, MT. Interior remodel of Fire Station #2. $180,000 budget; Design build; Project support

PROVIDE BRIEF RESUMÉ OF KEY PERSONS OF CONSULTING FIRMS ASSIGNED TO THIS PROJECT (add tables as required)

Name: Title: Firm Name: Role on This Project: Years w/ This Firm: Education (degree/year): Active Registrations: RFD	Richard M. Heinz, FAIA, NCARB, LEED AP Vice President Research Facilities Design (RFD) Principal-In-Charge of Lab Planning 33 years Bachelor of Architecture / 1979 Bachelor of Science, Business Administration / 1979 Registered Architect: Alabama, California, Delaware, Georgia, Hawaii, Illinois, Indiana, Iowa, Kansas, Kentucky, Maryland, Michigan, Minnesota, Missouri, Montana, Nebraska, Nevada, New York, North Carolina, Ohio, Oklahoma, Pennsylvania, South Dakota, Tennessee, Texas, Utah, Virginia and Wyoming AIA / Member: American Institute of Architects LSC / Learning Spaces Collaboratory NCARB / National Council of Architectural Registration Boards PKAL / Project Kaleidoscope SCUP / Society for College and University Planning SEFA / Scientific Equipment & Furniture Association USGBC / U.S. Green Building Council	Experience & Qualifications Relevant to This Project:	Chemistry Research Building Montana State University Bozeman, Montana Gaines Hall Renovation Montana State University Bozeman, Montana Norm Asbjornson Innovation Center Montana State University Bozeman, Montana Food & Agriculture Systems Teaching, Extension & Research (FASTER) Facility Master Plan Kansas State University Manhattan, Kansas Christopher S. Bond Life Sciences Center University of Missouri, Columbia Columbia, Missouri The School of Medicine Research Building University of California, Riverside Riverside, California J.D. and Mary West Science Laboratory Southern Nazarene University Bethany, Oklahoma R & D Facility LGI, Inc. Ankeny, Iowa Boyce Hall/Webber Hall Renovation University of California, Riverside Riverside, California


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American Fabricators & Engineers
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PROVIDE BRIEF RESUMÉ OF KEY PERSONS OF CONSULTING FIRMS ASSIGNED TO THIS PROJECT (add tables as required)

Name: Title: Firm Name: Role on This Project: Years w/ This Firm: Education (degree/year): Active Registrations: 	John G. Lewis Laboratory Consultant Research Facilities Design (RFD) Project Manager of Lab Planning 20 years N/A N/A	Experience & Qualifications Relevant to This Project:	Instructional Laboratory Renovations Montana State University Bozeman, Montana Durham Research Center II University of Nebraska Medical Center Omaha, Nebraska Durham Research Center University of Nebraska Medical Center Omaha, Nebraska Materials Science and Engineering Building University of California, Riverside Riverside, California Center For Applied Energy Research Laboratory Building 2 University of Kentucky Lexington, Kentucky Michael B. Enzi S.T.E.M. Undergraduate Laboratory Facility University of Wyoming Laramie, Wyoming Interdisciplinary Science Building Tennessee Technological University Cookeville, Tennessee Genomics Research Building University of California, Riverside Riverside, California Discovery Hall University of Washington, Bothell Bothell, Washington

Name: Title: Firm Name: Role on This Project: Years w/ This Firm: Education (degree/ year): Active Registrations: Specialized Training: Affiliations: Experience & Qualifications Relevant to This Project:	Dave Broquist, PE Senior Mechanical Engineer, Principal GPD, PC Principal 31 years BS-Mechanical Engineering Montana State University, 1981 MT, CA, UT,CO Numerous design and product seminars and classes including specialized design seminars with the National Institutes of Health in Bethesda, MD. ASHRAE Dave joined GPD, PC in 1988. He has 31 years experience in all aspects of HVAC and plumbing systems for commercial, residential, industrial, institutional, and healthcare projects for both new and remodel construction. Dave served on the NIH's National/Regional Biological Containment Laboratory Site Selection Committee and has served on the Montana Building Codes Council for the 4 years.	Experience & Qualifications Relevant to This Project:	**Select Experience:** **Rocky Mountain Laboratories – National Institutes of Health, Hamilton, MT.** Lead Mechanical Engineer – GPD has been on the design team for the past 16 years that has held the Indefinite Delivery, Indefinite Quantity (IDIQ) contract at Rocky Mountain Labs in Hamilton MT. In that span, GPD had done over 100 task orders ranging from a New BSL3 Animal Holding Room and Laboratory Building to small remodels existing labs to either upgrade the labs or simply modify them for new requirements. GPD has also done many small and major infrastructure projects including new Chiller Plant, New Steam Plant, and a Consolidated 6750KW Generator Plant. **Cooley Lab Renovation – Montana State University, Bozeman, MT (LEED Silver)** Electrical Engineer - This Project is a 15 million, 5 levels, 50,000 sq. ft. remodel of an existing Laboratory Building for Montana State University. It has just begun construction. The project was funded through an NIH Grant and had to meet the NIH Design Requirements Manual. The existing building was completely gutted down to structure and is being remodeled. It contains BSL-2 laboratory spaces, a Laser Lab, equipment rooms, offices and misc utility spaces. **Animal Bioscience Facility, Montana State University, Bozeman, MT** This project was a $12,000,000 new laboratory and classroom building. Building included teaching laboratories, support spaces offices, classrooms, and a lecture hall. In addition to the teaching classrooms and laboratories, research laboratories were provided on the upper level. The Building was tied into the existing campus utility tunnel to utilize campus wide power, steam, condensate and communications services. **Skaggs Building Addition – University of Montana, Missoula, MT** Mechanical Engineer - This Project was a $12 million, 5 levels, 60,000 sq. ft. facility for the University of Montana. Building included office spaces, research laboratories, animal holding spaces, cage wash equipment, classrooms, and lecture halls. Systems included: emergency power system, security systems, full tel/ network system, UPS systems and lighting control systems.

Name: Title: Firm Name: Role on This Project: Years Experience: Education (degree/ year): Active Registrations: Specialized Training: Affiliations:	**Mike Bender, PE** Senior Mechanical Engineer GPD, PC Mechanical Engineer 21 years BS-Mechanical Engineering Montana State University, 1996 MT Laboratory Building Systems Design– *University of Wisconsin-Madison.* Tekmar Boiler Control School Fire Sprinkler System Design Seminar Kitchen Hood and Fire/ Smoke Duct System Seminar Attended AHR Expos – 1997, 1999, 2003, 2007 ASHRAE ASHE	Experience & Qualifications Relevant to This Project:	**Qualifications:** Mike Bender joined GPD in 1997. He is a registered mechanical engineer experienced in designing mechanical systems and is competent in all phases of project design and management including feasibility studies, cost estimation, construction administration, and inspections. Projects have included biological safety level-3 laboratories, animal holding facilities, commercial office spaces, educational facilities, industrial facilities, and high-end residences. **Select Experience:** **Cooley Lab Renovation – Montana State University, Bozeman, MT (LEED Silver)** Electrical Engineer - This Project is a 15 million, 5 levels, 50,000 sq. ft. remodel of an existing Laboratory Building for Montana State University. It has just begun construction. The project was funded through an NIH Grant and had to meet the NIH Design Requirements Manual. The existing building was completely gutted down to structure and is being remodeled. It contains BSL-2 laboratory spaces, a Laser Lab, equipment rooms, offices and misc utility spaces. **Animal Bioscience Facility, Montana State University, Bozeman, MT** This project was a $12,000,000 new laboratory and classroom building. Building included teaching laboratories, support spaces offices, classrooms, and a lecture hall. In addition to the teaching classrooms and laboratories, research laboratories were provided on the upper level. The Building was tied into the existing campus utility tunnel to utilize campus wide power, steam, condensate and communications services. **Skaggs Building Addition – University of Montana, Missoula, MT** Mechanical Engineer - This Project was a $12 million, 5 levels, 60,000 sq. ft. facility for the University of Montana. Building included office spaces, research laboratories, animal holding spaces, cage wash equipment, classrooms, and lecture halls. Systems included: emergency power system, security systems, full tel/ network system, UPS systems and lighting control systems. **Integrated Research Facility – University of Montana, Missoula MT** Mechanical Engineer - This Project was a $12 million, 5 levels, 60,000 sq. ft. facility for the University of Montana. Approximately ½ of the building was originally designed as shelled space or unfinished lab to be fitted out as research grants or other funding sources for research were obtained.

Name: Title: Firm Name: Role on This Project: Years w/ This Firm: Education (degree/ year): Active Registrations: Specialized Training: Affiliations:	**Daniel E. (Bucky) Kempa,P.E., LEED AP** Principal/Electrical Engineer GPD, PC MEP Project Manager 27 BS-Electrical Engineering Montana State University 1990 State of Montana, P.E. WY, ID, CO, UT, WA, IA, IL, MI, CA, ND, OR NIH Lab Design Seminar 'Lab. Facilities for 21 Century' Liebert UPS/TVSS System Seminar Lyncole Systems and Computer Room Grounding Seminars R.O. Associates Grounding Seminar Cummins/Onan Emergency Power Systems Seminar/Factory Tour US Green Building Council (USGBC), IEEE, IAEI, BICSI, NFPA, IES	Experience & Qualifications Relevant to This Project:	**Select Experience:** **Rocky Mountain Laboratories – National Institutes of Health, Hamilton, MT.** Lead Electrical Engineer – GPD has been on the design team for the past 16 years that has held the Indefinite Delivery, Indefinite Quantity (IDIQ) contract at Rocky Mountain Labs in Hamilton MT. In that span, GPD had done over 100 task orders ranging from a New BSL3 Animal Holding Room and Laboratory Building to small remodels existing labs to either upgrade the labs or simply modify them for new requirements. GPD has also done many small and major infrastructure projects including new Chiller Plant, New Steam Plant, and a Consolidated 6750KW Generator Plant. **Building 7 Renovation - Rocky Mountain Laboratories, Hamilton, MT** *Lead Electrical Engineer – This project is a complete renovation of an existing Boiler Plant Building into new Laboratory Spaces. Work involved complete demolition of existing Boilers and support spaces. New spaces included two floors of new laboratory rooms with equipment rooms, support spaces, autoclaves, computer work rooms. Laboratory spaces include generic lab bench space but also a BSL2+ space for tick and flea research/holding area.* **St Peters Hospital Renovation, Helena, MT** Electrical Engineer – Project consisted design and construction of a new 110,000 sf addition to the hospital and approximately 65,000 sf of remodeled space. the project was phased to allow several remodels and small additions to allow the larger and overall addition of a new patient tower to be constructed. The project include remodeling of essentially every department and service of the facility as well as upgraded central HVAC and Electrical systems. **Skaggs Building Addition – University of Montana, Missoula, MT** This Project was a $12 million, 5 levels, 60,000 sq. ft. facility for the University of Montana. Building included office spaces, research laboratories, animal holding spaces, cage wash equipment, classrooms, and lecture halls. Systems included: emergency power system, security systems, full tel/network system, UPS systems and lighting control systems.

Name: Title: Firm Name: Role on This Project: Years Experience: Years with GPD: Education (degree/ year): Active Registrations: Specialized Training: Affiliations:	**Brad Kauffman,** P.E. LEED AP **Senior Electrical Engineer** GPD, PC Project Electrical Engineer 17 Years 14 Years BS-Electrical Engineering Montana State University, 2000 State of Montana, P.E. WY, ID, WI, SD, NE Lighting Technologies International Energy Code Lighting Control Systems and Applications Fire alarm systems US Green Building Council (USGBC)	Experience & Qualifications Relevant to This Project:	**Select Experience:** **Cooley Lab Renovation – Montana State University, Bozeman, MT (LEED GOLD)** Electrical Engineer - This Project is a 15 million, 5 levels, 50,000 sq. ft. remodel of an existing Laboratory Building for Montana State University. It has just begun construction. The project was funded through an NIH Grant and had to meet the NIH Design Requirements Manual. The existing building was completely gutted down to structure and is being remodeled. It contains BSL-2 laboratory spaces, a Laser Lab, equipment rooms, offices and misc utility spaces. The Project is required to meet LEED Silver and is on track to meet this requirement. **Animal Bioscience Facility, Montana State University, Bozeman, MT** This project was a $12,,000,000 new laboratory and classroom building. Building included teaching laboratories, support spaces offices, classrooms, and a lecture hall. In addition to the teaching classrooms and laboratories, research laboratories were provided on the upper level. The Building was tied into the existing campus utility tunnel to utilize campus wide power, steam, condensate and communications services. **Marsh Labs (Small and Large Animal Facilities – Montana State University, Bozeman, MT** Electrical Engineer - This consisted of a remodel of the existing Small Animal Holding into a BSL 3 facility and construction of a new Large Animal Holding Facility. The Small Animal facility was a $1.4 Million total renovation of the existing building with all new MEP Systems. The Large Animal Facility was a new building and designed to be expanded in the future. **Missoula College – University of Montana, Missoula MT.** Mechanical Engineer - This project is a 100,000 sf new building to replace their existing facilities. Programs include their Culinary, Business, Health Professions, Applied Arts and Sciences, and Applied Computer and Electronics Technology. Spaces include large and small classrooms as well as a complete operational kitchen and dining area as well as a cadaver lab. **Integrated Research Facility – University of Montana, Missoula MT** Electrical Engineer - This Project was a $12 million, 5 levels, 60,000 sq. ft. facility for the University of Montana. Approximately ½ of the building was originally designed as shelled space or unfinished lab to be fitted out as research grants or other funding sources for research were obtained.

Name: Title: Firm Name: Role on This Project: Years w/ This Firm: Education (degree/year): Active Registrations: Specialized Training:	**Dave Broquist, P.E.** Principal/Mechanical Engineer **GPD, PC** Lead Mechanical Engineer 29 years BS-Mechanical Engineering, Montana State University 1985 MT, CO, UT, CA, MI Attended Lab Design Seminar – 'Laboratory Facilities for the 21 Century' presented by National Institutes of Health, Main Campus, Bethesda, Maryland (August 2001) Attended Lab Design Seminar: 'International Conference for Biocontainment Facilities' presented by Tradeline Seminars, Inc., San Antonio, TX (April 2002)	Experience & Qualifications Relevant to This Project:	**Select Experience** **Peak Health and Wellness Center Renovation, Great Falls, MT** Project Description: This project was an expansion of an existing Peak Heath Facility to add more weight room space, exercise equipment space, locker rooms, additional recreational pools, and upgrades to existing spaces and HVAC Systems. **PE Facility Renovation, Northern Montana College, Havre, MT** Project Description: Project included a renovation of the existing Swimming Pool and MEP systems as well as a remodel of locker rooms and Upgrades to the existing Gymnasium. **Animal Bioscience Facility, Montana State University, Bozeman, MT** This project was a $9,000,000+$3,000,000 new laboratory and classroom building. Building included laboratories, support spaces offices, classrooms, and a lecture hall. **Cooley Lab Renovation – Montana State University, Bozeman MT.** This Project is a 15 million, 5 levels, 50,000 sq. ft. remodel of an existing Laboratory Building for Montana State University. The Project achieved LEED Silver. **Integrated Research Facility – University of Montana, Missoula MT** This Project was a $12 million, 5 levels, 60,000 sq. ft. facility for the University of Montana. Approximately ½ of the building was originally designed as shelled space or unfinished lab to be fitted out as research grants or other funding sources for research were obtained. **Skaggs Building Addition – University of Montana, Missoula MT** This project was a 50,000 sq. ft. addition to an existing Pharmacy Building at the University of Montana. The Facility included new chemistry laboratory suites for research and teaching along with support labs, equipment spaces, offices, classrooms, a large lecture hall and it includes an Animal Holding Facility.

Name: Title: Firm Name: Role on This Project: Years Experience: Years w/ GPD: Education (degree/year): Active Registrations: Specialized Training:	**James Taylor, P.E.** Senior Mechanical Engineer **GPD, PC** Project Mechanical Engineer 14 years 3 years BS-Mechanical Engineering, Montana State University 2002 MT Attended multiple training courses offered through Siemens Building Technologies, a leading international controls company. Courses specialized in all areas of direct digital controls, including programming languages, system design, system startup and commissioning, graphics design, and project management. Chicago, IL (2004-2006)	Experience & Qualifications Relevant to This Project:	**Select Experience** **SUB Ballroom Renovation, Montana State University – Bozeman, MT** Lead Mechanical Engineer – This project was a $2.7 million makeover of the existing Strand Union Building's ballrooms. Holding 1400 people, it's a major focal point for the University to showcase itself. The mechanical equipment serving the space was replaced with up-to-date equipment to improve heating and ventilation, paying close attention to the aesthetics and acoustics of the space. **Bobcat Stadium Expansion, Montana State University – Bozeman, MT** Lead Mechanical Engineer – This project was a $10 million expansion to the existing football stadium, consisting of adding the southeast end zone, new concession stands, restrooms, locker rooms, and retail space. As an MSU alumni, this project was a fun one! **Alaska Native Science & Engineering Program (ANSEP) Building** **University of Alaska – Anchorage, AK** Lead Mechanical Engineer – The ANSEP building is a 14,000 sq. ft. facility where University faculty and students meet with leaders of various science and engineering industries to provide real world instruction. Touted as one of the most successful and cost effective STEM programs in the nation, ANSEP engages students as early as sixth grade all the way through the PhD level. **Madison County Annex Building – Virginia City, MT** Lead Mechanical Engineer – This was a $4 million new 15,000 sq. ft. office building housing many County offices including Clerk & Recorder, Treasurer's office, Planning, Commissioners' offices, Records and artifacts storage, etc. **Emergency Operations Center – Butte, MT** Lead Mechanical Engineer – This was a $3 million new 15,000 sq. ft. building housing the Emergency Services Department, Driver Examiners' offices, and Montana Highway Patrol facilities. **Big Horn County Fairgrounds – Hardin, MT** Lead Mechanical Engineer – This project is a campus of buildings including an arena, community center, restrooms, maintenance shop, and a series of animal barns intended for the 4H clubs to show at fair time. **St. Peters Medical Group, Medical Office Building – Helena, MT** Lead Mechanical Engineer – Multiple projects included approximately 20,000 sq. ft. of new and renovated spaces, including Cardiology, Neurology, Orthopaedics, Pain Management, Radiography, nurse stations, and various staff/reception areas.

Name: Title: Firm Name: Role on This Project: Years w/ This Firm: Education (degree/year): Active Registrations:	**Craig Jenneskens, PE, LEED** **Site Development Group Mgr.** **Robert Peccia & Associates** **Civil Engineering** **23** **EDUCATION** Master of Science, Environmental Engineering, 1994, University of Notre Dame. Bachelor of Science, Mathematics, 1992, Carroll College. **REGISTRATION** Professional Engineer: 1998, Montana No. 12098 **AFFILIATIONS** Member: AWWA, ASCE **SPECIALTIES** Site Development Grading and Drainage Water Supply and Storage Water Distribution Water System Computer Modeling Wastewater Collection Systems Pump Stations Fish Hatchery Facilities Preliminary Engineering Reports	Experience & Qualifications Relevant to This Project:	Mr. Jenneskens has over 20 years of combined engineering and construction management experience. He has been involved in the design and construction inspection of many building and infrastructure projects that include the following: **Gallatin Hall – Montana State University (MSU),** Bozeman, MT: RPA was a team member providing civil services on this new four-story, 73- bed suite-style residence hall on the campus of MSU in Bozeman. The project was designed to support outdoor activities and focused on sustainable design and operations. Primary site design and construction included: comprehensive topographic and utility site survey, new access road and accessible parking, rain gardens for storm water management, sidewalk improvements, site grading and an outdoor concrete oval plaza. **Montana City School Site Work and Sports Facilities,** MT: The school expansion included a new 8-classroom building addition, site improvements, and new outdoor athletic facilities. RPA provided design and construction oversight of the site improvements and new athletic facilities. The primary components included a six-lane regulation 400-meter running track with decomposed granite surfacing, a little league baseball field, a tee-ball baseball field, two new parking lots, a regulation-sized football/soccer field on the infield of the running track, new water service, grading, and storm drainage improvements. **Department of Military Affairs - Fort Harrison,** MT: Design Infrastructure Improvement projects including: roads, parking sidewalk, water, sewer, utilities for: Infrastructure Improvements Phase 2 and 3; Building 517; CST Building; DES; Entry Gate as well as AASF Add Phase 2; FH Museum; FH Mess Hall; and HARC. **Helena Aviation Readiness Center,** Helena, MT: Site design for new $30 million Montana National Guard Readiness Center near Helena Regional Airport. Project includes pervious pavement, storm water management, parking, security fencing, and utility extensions. **Blue Cross Blue Shield Montana Headquarters Building,** Helena, MT: Complete civil/site design for a 14-acre site which will house a new 100,000-square-foot office building in Helena, MT. Project includes five acres of parking, storm water management, vehicle and pedestrian access routes, and utility main extensions.

Name: Title: Firm Name: Role on This Project: Years w/ This Firm: Education (degree/year): Active Registrations:	**Jeffrey Key, PE** **President/Operations Mgr.** **Robert Peccia & Associates** **QA/QC** **26** **EDUCATION** Bachelor of Science with Honors, Civil Engineering, 1983, University of Minnesota **REGISTRATION** Professional Engineer: Montana No. 11410 Idaho No. 12889 Washington No. 36299 Oregon No. 82587 **AFFILIATIONS** American Planning Association; Institute of Transportation Engineers; American Society of Civil Engineers Past-President, ASCE Montana Section (2003-2004); ASCE Pacific Northwest Council (PNC) Past-Chair (2004-2005); American Railway Engineering and Maintenance-of-Way Association **SPECIALTIES** Quality Assurance/Quality Control Cost-Estimating and Budgeting Value Engineering Project Management Traffic & Transportation Studies Streets & Highway Design & Layout Public Involvement & Facilitation	Experience & Qualifications Relevant to This Project:	Mr. Key has managed large, multi-disciplinary roadway reconstruction design projects, as well as a variety of comprehensive transportation planning projects. A seasoned public facilitator, he has contributed to several national and statewide urban community planning projects. Mr. Key's experience encompasses transportation planning, traffic engineering, roadway design and general civil infrastructure planning and design services. His specialties include transportation plans, corridor studies, feasibility studies, traffic impact studies (TISs), signing and pavement marking plans, site and parking lot design and studies, streets and highway design and layout, intersection analysis and design, and traffic signal designs and studies. He is also experienced in both recreational and alternative travel mode development (i.e. transit, pedestrian, bicycle, equestrian and ATV facilities). With his excellent working knowledge of the rural and urban transportation planning process, traffic issues and infrastructure design requirements, Mr. Key has successfully completed many transportation studies for communities throughout Montana and the Pacific Northwest. In addition, Mr. Key has led several roadway design and construction projects that bring a practical perspective to the connection between design and constructing a facility on-the-ground. **Fort Harrison-Limestone Hills Joint Land Use Study**, Lewis & Clark/Broadwater Counties, MT **Belgrade to Bozeman Frontage Road Corridor Planning Study**, Gallatin County, MT **Montana State University Transportation Master Plan**, Bozeman, MT **Bozeman Transportation Master Plan**, Bozeman, MT **Kalispell Courthouse Couplet (US 93) Traffic Study**, Kalispell, MT **River Drive Corridor Planning Study**, Great Falls, MT **Sidney Roundabout Traffic Study**, Sidney, MT

Name: Title: Firm Name: Role on This Project: Years w/ This Firm: Education (degree/year): Active Registrations:	**Thomas E. Stark, PLS, CFedS** **Surveying Group Manager** **Robert Peccia & Associates** **Land Surveyor** **17** **EDUCATION** Associate of Applied Science, Surveying with Honors, 1995, Flathead Valley Community College Bachelor of Arts, Business Administration – Finance, 1990, University of Montana **REGISTRATION** Montana Land Surveyor, 1999, Registration No. 12249 LS Idaho Land Surveyor, 2001, Registration No. 10294 Alaska Land Surveyor 2013 Registration No. 13841 BLM Certified Federal Surveyor Certification No. 1175 **AFFILIATIONS** MARLS Co-President of Central Chapter MARLS BPELS, Committee Chair **SPECIALTIES** Land Surveying Topographic Mapping Section and Boundary Retracement Monumentation GPS Control and GPS Surveys	Experience & Qualifications Relevant to This Project:	Prior to joining RPA, Mr. Stark worked for several surveying and engineering firms in Montana and Ohio, as well as for the United States Forest Service (USFS) in Montana. Mr. Stark begins his projects with initial research, continuing with collection of all field data, public relations, generation of final coordinates, staking, and then generating finished AutoCAD drawings. He has completed projects using feet or meters in both local and state plane coordinates. He has extensive experience in the use of different types of total stations and GPS including Geodimeter 400 and 600 series, Trimble 4700 and 5700 GPS, Topcon 300 series, Lietz Set series, and different types of data collection devices. He provides courthouse research, hydrologic studies, and ALTA surveys. Mr. Stark performs surveying and mapping projects in support of RPA's other Divisions. **Gallatin Hall – Montana State University (MSU),** Bozeman, MT**:** RPA was a team member for civil engineering services on this new four-story, 73- bed suite-style residence hall on the campus of MSU in Bozeman. The project was designed to support outdoor activities and focused on sustainable design and operations. Primary site design and construction included: comprehensive topographic and utility site survey, new access road and accessible parking, rain gardens for storm water management, sidewalk improvements, site grading and an outdoor concrete oval plaza. **Montana City School Site Work and Sports Facilities,** MT**:** The school expansion included a new 8-classroom building addition, as well as site improvements and new outdoor athletic facilities. RPA provided design and construction oversight of the site improvements and new athletic facilities. The primary project components included a six-lane regulation 400-meter running track with decomposed granite surfacing, a little league baseball field, a tee-ball baseball field, two new parking lots, a regulation-sized football/soccer field on the infield of the running track, new water service to the school and grading and storm drainage improvements. **College & 11st Street Roundabout,** Bozeman, MT. **College – Main to South 19th,** Gallatin County, MT. **MDT Survey/SUE Term Contracts (2016-2002)**, Statewide, MT.

PROJECTS BY PRIME FIRM THAT BEST ILLUSTRATE QUALIFICATIONS RELEVANT TO THIS PROJECT

DSArchitects

MSU Billings Sciences and Allied Health Building

Billings, MT

Project Description

The project combines the College of Allied Health Professions with Biological and Physical Sciences. This addition to one of the campuses oldest buildings brings the facility into the modern era while retaining it's historical roots.

- 30,000 s.f. 3 story addition
- 29,000 s.f. renovated space
- Health and Human Performance Labs
- Teaching Labs: Biology, Botany/Ecology/Zoology, Microbiology, Biochemistry, Human Anatomy & Physiology, Plant Systematics, Organic Chemistry, Physical/Analytical Chemistry, Physics, Earth Sciences, Genetics/Cell & Molecular Biology.
- Research Labs

GSF, COST/SF, AND YEAR
Estimated Cost $13,150,000
Year Completed: TBD

OWNER CONTACT INFO
Jason McGimpsey
MSU Billings
(406) 657-2197

MSU Instructional Labs Renovations

Bozeman, MT

Gaines Hall 245, 249, 247, 216, 218

To accommodate the need to increase the number of sections and students in General Chemistry courses for the Fall of 2017, the project will add lockable storage drawers in six wet lab spaces in Gaines Hall. The cabinets and countertops will match the existing cabinets of the rooms in which they are located.

Meat Processing Center – Linfield 120

The MSU Meat and Meat Processing Center is a 1,178 NASF State inspected teaching facility for processing of meat. Their mission is to conduct basic and applied research along with supplying expertise for new product development. The facility has much of the equipment necessary for sausage and ham manufacturing. In addition, there is an adjacent chemistry laboratory for analysis of a wide range of physical and chemical properties of meat. The project will: replace cold storage freezer; replace failing meat cutting equipment; upgrade components of facility to make a modern, USDA compliant meat processing lab.

Lewis 107, 107A

"Discover how to create the microcosm".

-MSU description: Lewis 107 and 107A is approximately 1460 NASF and is primarily used for biology and ecology labs. Due to the nature of the student work, it is necessary to store projects on countertops limiting the utilization of the space for other courses. The project will investigate claiming the adjacent storage room (107A) to increase the size of the lab and allow for innovative ideas to create student project storage space.

Goals of this project are:

- Increase utilization of the space.
- Create modern learning lab space.
- Encourage innovative solutions to a storage problem.
- Increase SF/station.

Cobleigh 602, 620,

Cobleigh Hall 602 (620 & 606) is currently used as a circuits lab in Electrical and Computer Engineering. The project will renovate 880 NASF of outdated space into a modern teaching lab that parallels electrical industrial experience found in the industry. The lab layout should place the instructor in the center of the space to increase engagement with students involved in hands on learning.

- Create modern learning lab spaces showcasing the department's mission.
- Open corridor walls to encourage engineering on display (Rm 606).
- Replace fixed workbenches and uncomfortable stools with relevant furniture to create a high tech office / lab environment.
- Add classroom technology.
- Coordinate scope of project with timeline of NAH.

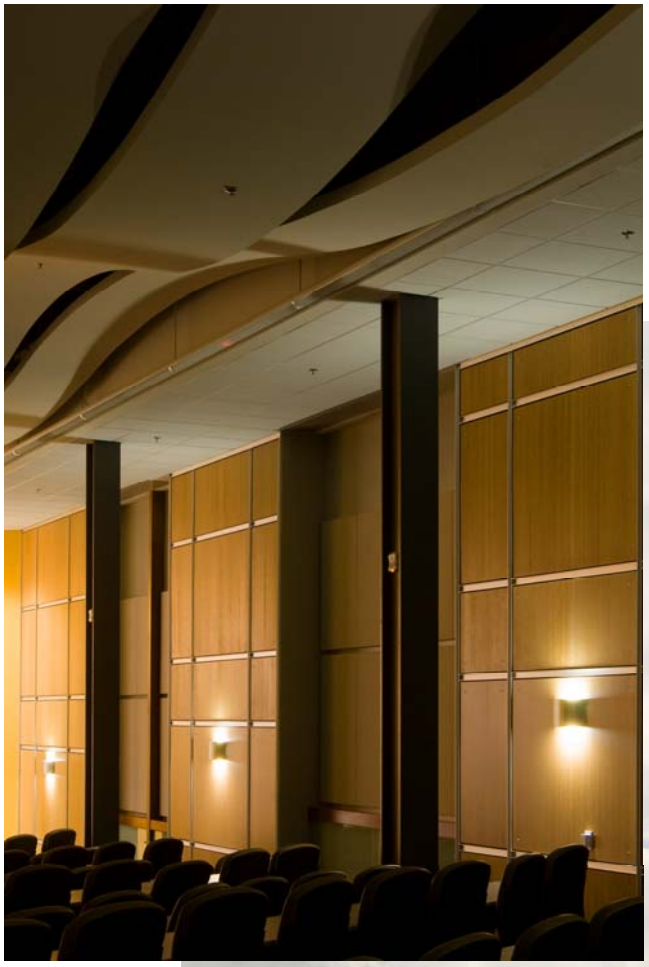
GSF, COST/SF, AND YEAR

Estimated Cost $1,000,000

Year Completed: TBD

OWNER CONTACT INFO

Darryl Curfman
Project Manager
Campus Planning Design & Const.
Bozeman, Montana 59717-2760
(406) 994-5288



Montana State University - Gaines Hall Renovation

Bozeman, MT

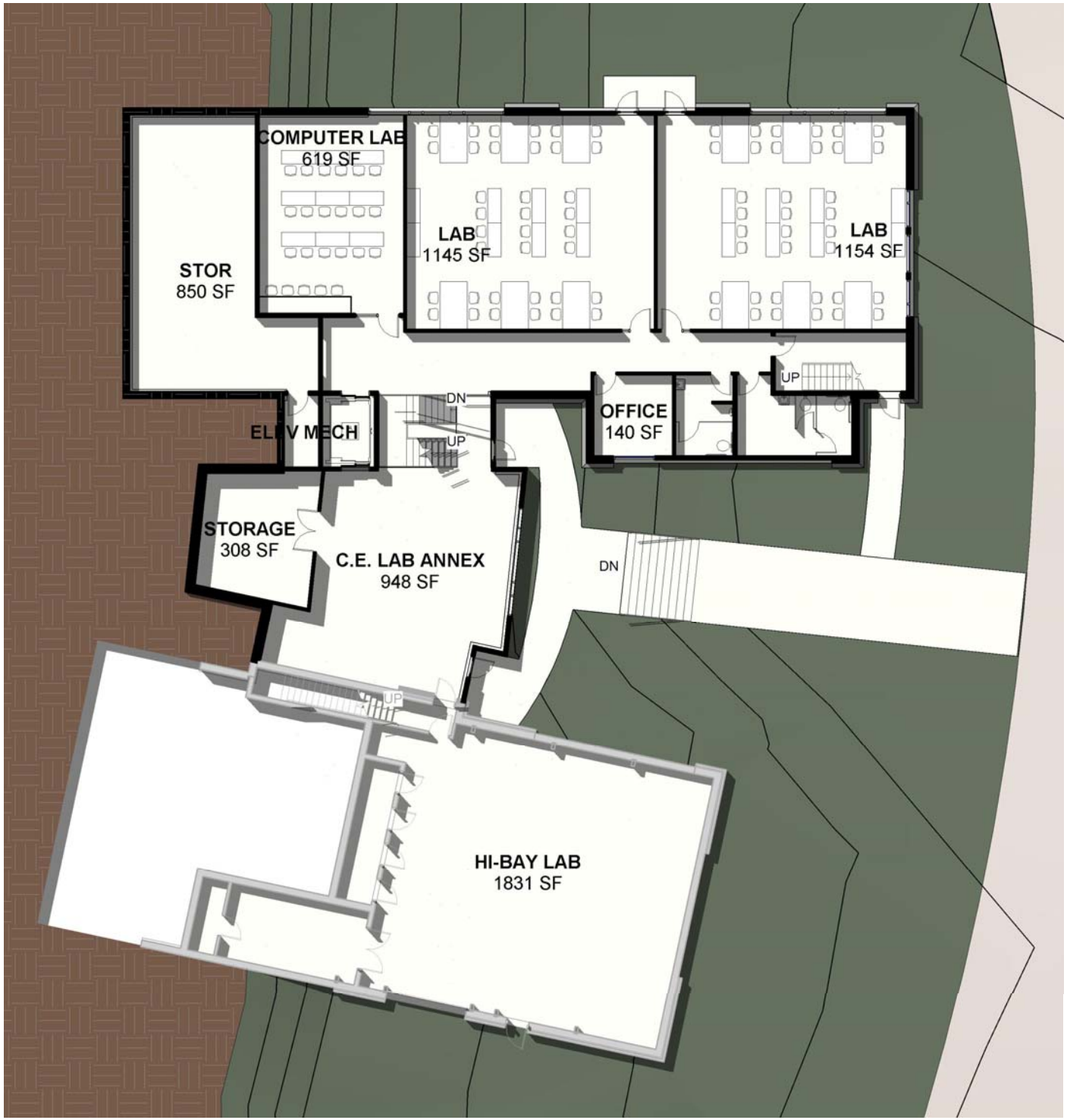
PROJECT DESCRIPTION

Gaines Hall Renovation included the renovation of the existing 1959, 4 story chemistry building and the addition of a new lecture hall. The renovation of the existing structure included demolition of the existing 4 story, 75,000 s.f. building to its structural frame, seismic upgrades to the existing structure, and rebuilding the exterior envelope including a new roof structure and mechanical penthouse. The building interior and systems received a complete upgrade to meet the needs of

- 270 seat classroom/lecture hall, (2) 60 person class-rooms, (4) 25 person classrooms
- New entries and 4 story elevator
- Labs for Earth Sciences, Paleontology, Mineral and Petrology, Core Analysis, Biology, Physics, Chemistry and Organic Chemistry
- Paleontology Labs
- Modern Languages Department
- Center for Student Success Program
- Public gathering and social spaces
- $27,500,000 construction cost

GSF, COST/SF, AND YEAR
Estimated Cost $27,500,000
Year Completed: 2011

OWNER CONTACT INFO
Walter Banziger
Montana State University
(406) 994-6326


COMPUTER LAB
619 SF
LAB
1145 SF
LAB
1154 SF
STOR
850 SF
DN
UP
OFFICE
140 SF
UP
ELEV MECH
UP
STORAGE
308 SF
C.E. LAB ANNEX
948 SF
DN
UP
HI-BAY LAB
1831 SF

Carroll College Civil Engineering Lab

Helena, MT

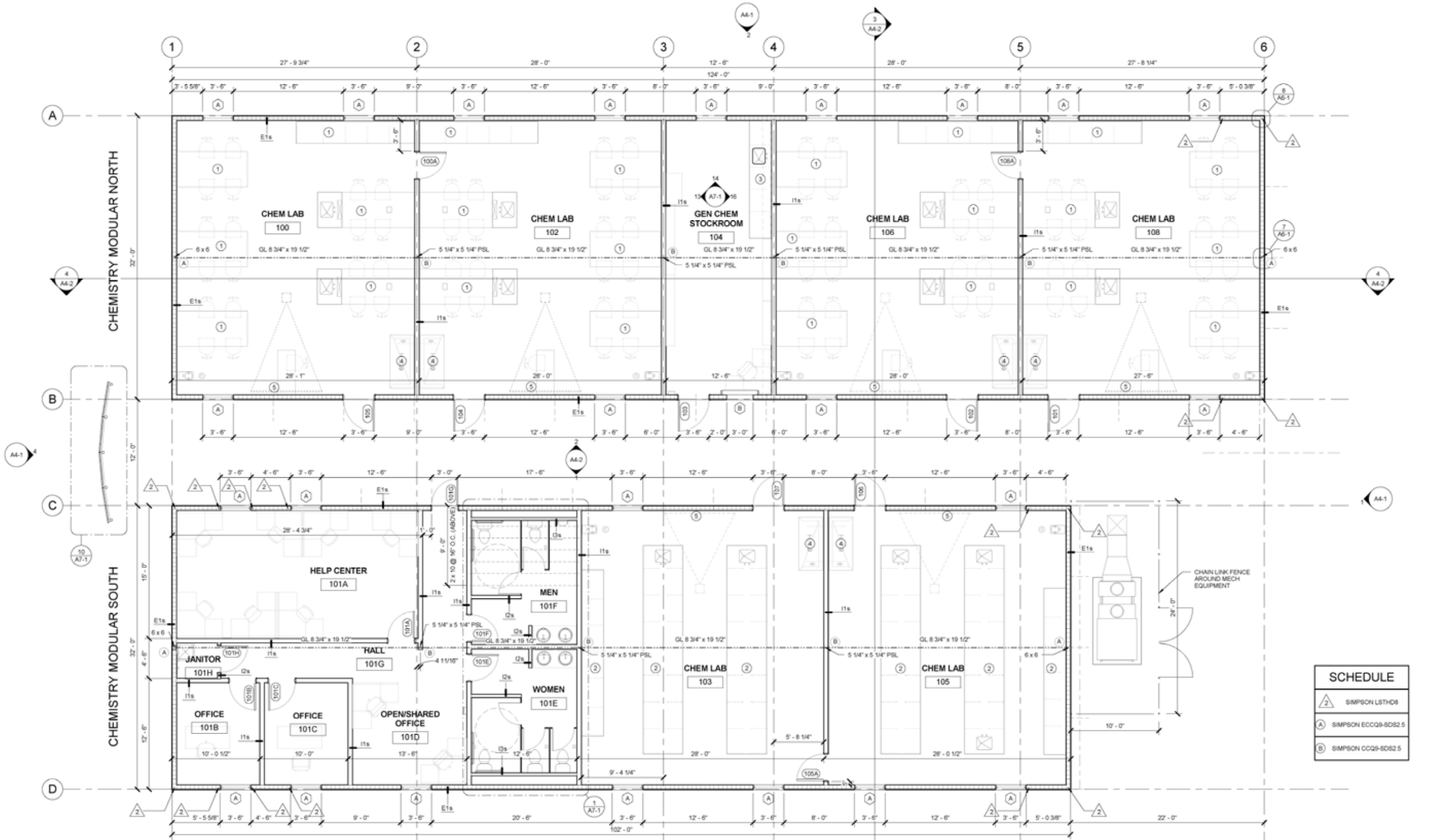
CATEGORY OF WORK
Architecture
Planning

PROJECT DESCRIPTION
Phase One included a high bay Civil Engineering Lab for Carroll students to be able to do large structure design and mock-up construction, a classroom and support spaces.

Phase Two expanded the Civil Engineering Lab and expanded the lab programs to include two new labs, student research space as well as several new classrooms. Phase Two is currently in a fundraising effort.

GSF, COST/SF, AND YEAR
$600K Phase One
2002
2014 Phase Two design

OWNER CONTACT INFO
John Scharf
Roberts-Nix Professor of Engineering
406-447-4456



1 A3-2 FIRST FLOOR
3/16" = 1'-0"

WOOD CONNECTIONS

1. ALL NAILS SHALL BE "COMMONS" UNLESS INDICATED OTHERWISE. USE OF SMALLER DIAMETER "BOX" NAILS FREQUENTLY USED IN NAIL GUNS REQUIRES USE OF LARGER PENNY WEIGHT TO PROVIDE AN EQUIVALENT DIAMETER/LENGTH NAIL PROVIDE ASTM A153 GALVANIZED FASTENERS @ TREATED WOOD.

2. STEEL CONNECTION PLATE MATERIAL SHALL CONFORM TO ASTM STANDARD A36. WELDING SHALL CONFORM TO AWS D1.1.

3. CONNECTION HARDWARE SHALL BE THE SIMPSON TYPE INDICATED, OR APPROVED EQUAL. PROVIDE ASTM G185 GALVANIZE COATING AT CONNECTORS AND ASTM A153 GALVANIZED COATING AT FASTENERS AT CONNECTIONS TO TREATED WOOD. FILL ALL HOLES IN CONNECTION WITH THE TYPE, SIZE, AND NUMBER OF BOLTS/NAILS LISTED BY THE MANUFACTURE. FINISH FOR EXPOSED CONNECTION HARDWARE SHALL BE EPOXY-BASED CORROSION RESISTANT PAINT WITH COLOR AS CHOSEN BY ARCHITECT.

4. BOLTS AND LAG SCREW MATERIAL SHALL CONFORM TO ASTM STANDARD A307.

5. BOLT HOLES IN WOOD MEMBERS SHALL BE A MAXIMUM OF 1/16" LARGER THAN THE BOLT DIAMETER.

6. FOR LAG SCREWS, THE CLEARANCE HOLE SHALL BE THE SAME DIAMETER AS THE SHANK AND THE SAME DEPTH AS THE UNTHREADED SHANK. THE LEAD HOLE SHALL BE 60 PERCENT OF THE SHANK DIAMETER AND A LENGTH EQUAL TO THE THREADED PORTION.

7. PROVIDE STANDARD WASHERS UNDER THE HEADS AND NUTS OF ALL BOLTS AND LAG SCREWS BEARING ON WOOD.

8. ALL FASTENING SHALL BE IN ACCORDANCE WITH 2003 IBC TABLE NO. 2304.9.1 UNLESS THE PLANS INDICATE A HEAVIER NAILING.

9. ALL WASHERS FOR ANCHOR BOLTS ATTACHING SILL PLATES SHALL BE STEEL WASHERS WITH A MINIMUM OF 3/16"x3"x3" IN SIZE.

10. UNLESS NOTED OTHERWISE, PROVIDE 5/8" DIA. x 7" EMBED ANCHOR BOLTS AT 4'-0" MAX. O.C. AT ALL SILL AND BEARING PLATE TO FOUNDATION WALL CONNECTIONS WITH (2) BOLTS MINIMUM PER EACH SILL PLATE PIECE AND WITH BOLTS 12" MAX. FROM CORNERS AND ENDS OF SILL PLATE PIECES.

PARALLEL STRAND LUMBER (PSL) AND LAMINATED VENEER LUMBER (LVL)

1. PSL FRAMING MEMBERS SHALL BE OF THE SIZE AS INDICATED ON THE PLANS AND GRADE 1.8E PARALLAM.

2. PARALLEL STRAND LUMBER SHALL BE TRUS JOIST "PARALLAM PSL" OR EQUIVALENT APPROVED BY THE ENGINEER

3. INSTALL PSL'S & LVL'S IN ACCORDANCE W/ MFR'S RECOMMENDATIONS. DO NOT CUT, NOTCH, OR DRILL PSL OR LVL MEMBERS UNLESS APPROVED BY THE STRUCTURAL ENGINEER OF RECORD.

GENERAL NOTES:

1. DIMENSIONS ARE TO GRID, FACE OF STUD, FACE OF SIP PANEL, OR DOOR/WINDOW OPENINGS. DIMENSIONS TO OPENINGS ARE NOMINAL. VERIFY ALL OPENINGS WITH ROUGH OPENING REQUIREMENTS.
2. SEE SHEET A1-2 FOR WALL TYPE DESIGNATIONS

SAWN LUMBER

1. ALL LUMBER SHALL BE GRADED AND MARKED ACCORDING TO THE WESTERN WOOD PRODUCTS ASSOCIATION (WWPA) GRADING RULES OR APPROVED EQUIVALENT. ARCHITECTURAL/EXPOSED MEMBERS SHALL NOT BE STAMPED. A CERTIFICATE OF COMPLIANCE BY THE MANUFACTURER SHALL BE PROVIDED IN LIEU OF MARKING.

2. PROVIDE THE FOLLOWING FRAMING LUMBER SPECIES AND GRADE WITH MOISTURE CONTENT LESS THAN 19%, S4S:
- 2x FRAMING LUMBER (NOT INCLUDING WALL STUDS AND PLATES) = DOUGLAS FIR-LARCH, GR. NO. 2
- POSTS AND BEAMS, 4x AND LARGER = DOUGLAS FIR - LARCH, GR. NO. 1
- BEARING/SHEAR WALL STUDS = DOUGLAS FIR - LARCH, STUD GRADE
- SILL PLATES IN CONTACT WITH CONCRETE OR MASONRY = PRESSURE TREATED HEM FIR, STUD GRADE.

DRAWING NOTES:

1. LAB CABINETS, SINKS, COUNTER TOPS AND SEATING TO BE REUSED AND RELOCATED FROM GAINES HALL ROOMS 137, 135, 134, AND 132
2. LAB CABINETS, SINKS, COUNTER TOPS TO BE REUSED AND RELOCATED FROM GAINES HALL ROOMS 203 AND 207
3. CASEWORK AND COUNTER TO BE REUSED AND RELOCATED FROM GAINES HALL - ROOMS TO BE DETERMINED
4. FUME HOODS TO BE REUSED AND RELOCATED FROM GAINES HALL
5. VISUAL DISPLAY BOARDS TO BE REUSED AND RELOCATED FROM GAINES HALL

GLUE-LAMINATED TIMBER

1. AT SIMPLE SPAN BEAMS, PROVIDE 24F-V4 DF/DF MEMBERS.

2. EXPOSED GLULAM BEAMS CONFORM TO AITC, ARCHITECTURAL APPEARANCE GRADE. CONCEALED GLULAM BEAMS SHALL CONFORM TO AITC, INDUSTRIAL APPEARANCE GRADE.

MSU TEMP. LAB BUILDINGS

MONTANA STATE UNIVERSITY

PROJECT #

PHASE	DATE
PRE	-
SD	-
DD	-
CD	-

dowling | sandholm | architects

REV	DESC	DATE
A	Check Set	2-29-08
B	Permit Set	3-4-08
C	-	-
D	-	-

DRAWN BY: X

FIRST FLOOR PLAN

A3-2

3/04/08

Montana State University Temporary Chemistry Labs

Bozeman, MT

PROJECT DESCRIPTION

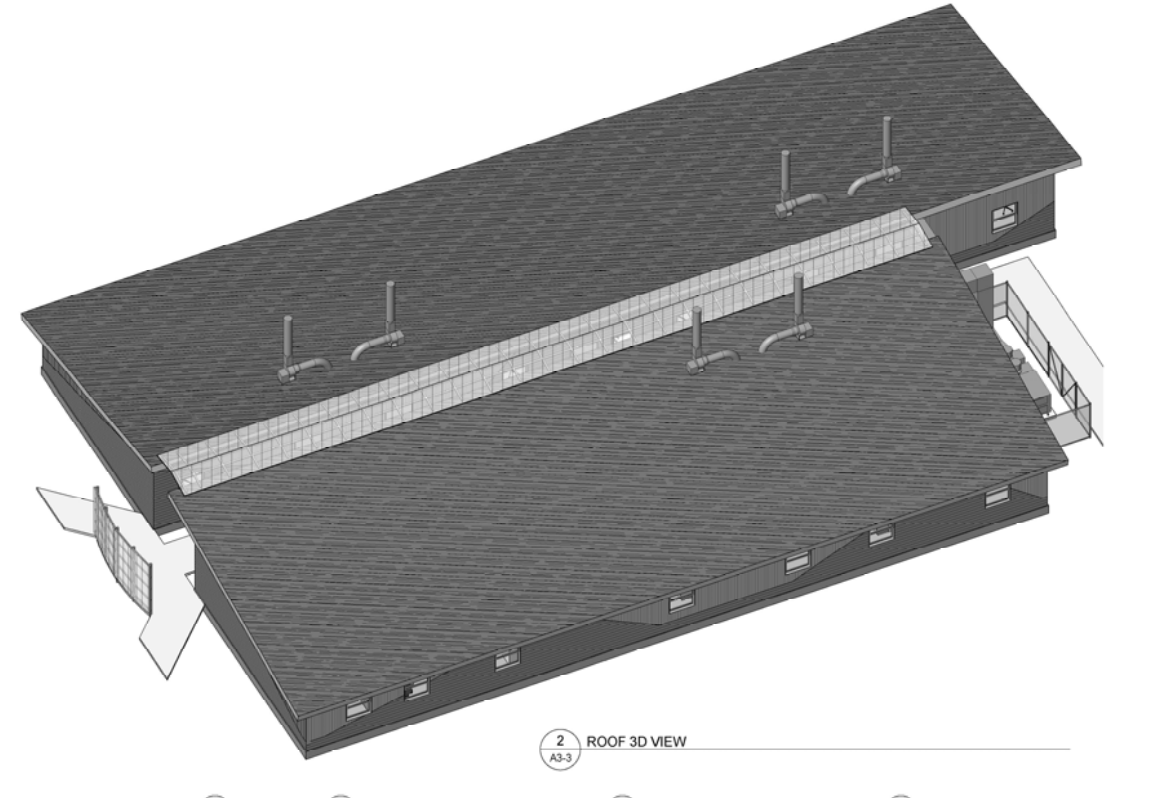
With space on campus at a premium the renovation of Gaines Hall required some creative problem solving to accommodate labs during construction. It was determined by the team that building some temporary structures to house Chemistry Labs would be the best solution. DSA designed the simple structures to be cost effective and easily removable once the project(s) were completed. (6) Chemistry Labs with support space and exterior Chemical storage containers were built.

GSF, COST/SF, AND YEAR

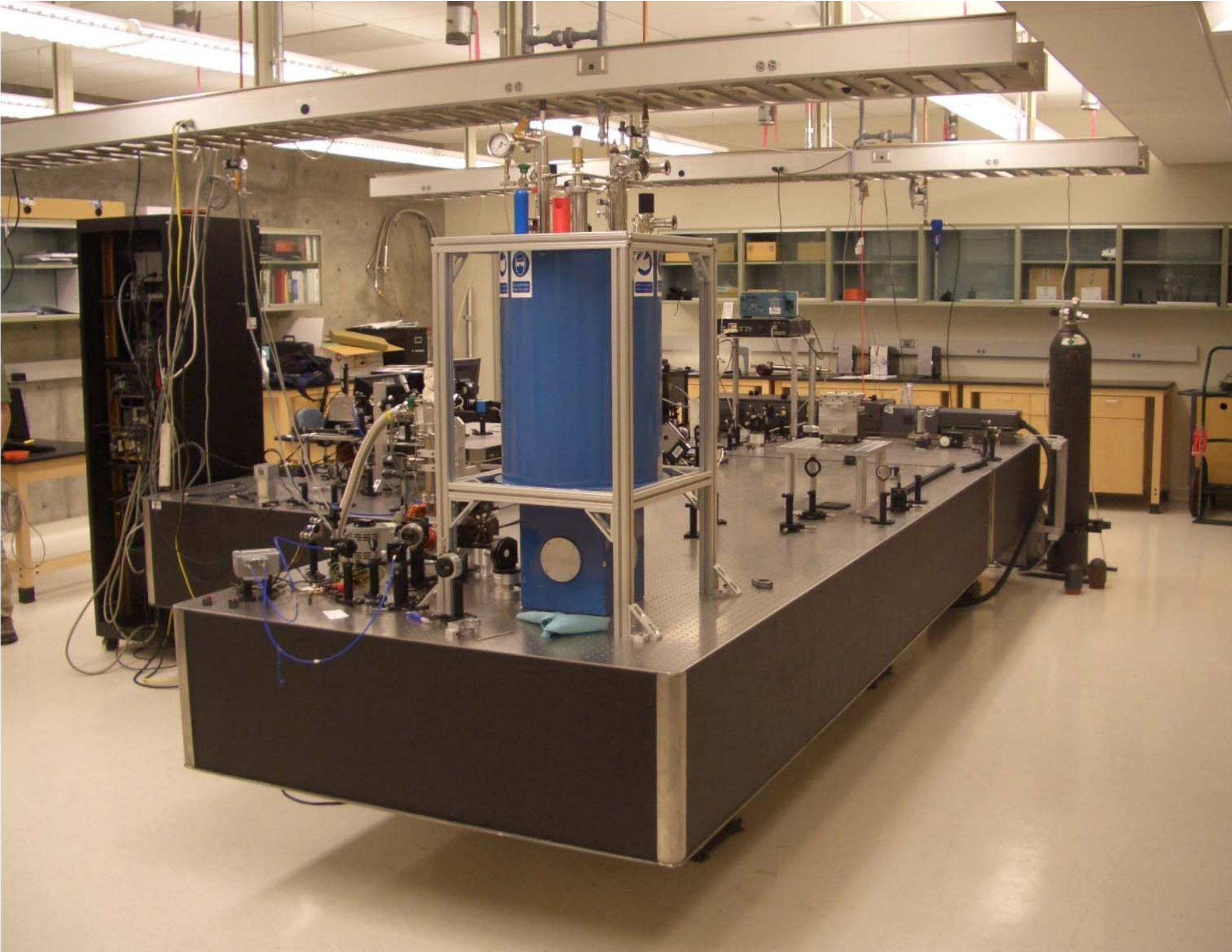
7,700 s.f.
$1,000,000
2008

OWNER CONTACT INFO

Montana State University
Walter Banziger
406.994.6326
Bozeman, Montana



PROJECTS BY PRIMARY CONSULTANT(S) THAT BEST ILLUSTRATE QUALIFICATIONS RELEVANT TO THIS PROJECT



Project Name & Location:	Brief Project Description:	GSF, Cost/SF, & Year Completed:	Owner Contact Info:
Food & Agriculture Systems Teaching, Extension & Research (FASTER) Facility Study, Kansas State University College of Agriculture, Manhattan, Kansas RFD	Master Planning and Preliminary Programming services for K-State College of Agriculture and K-State Extension and Research in support of the University's 2025 Strategic Plan to become a Top 50 Public Research Institution. This study included iterative work sessions with college leadership, stakeholder committee and departmental representatives from the Departments of Agricultural Economics; Biological and Agricultural Engineering; Agronomy; Horticulture, Forestry and Recreation; Plant Pathology; Entomology; Animal Science and Industry; and Grain Science and Industry. The study included analysis of College of Agriculture space in 7 existing buildings and identified the projected space needs of the College totaling approximately 1.2 million gross SF including a Phase 1 New Teaching/ Research Facility of 264,400 GSF and Renovation of 36,000 GSF of existing space.	Total Analyzed Area: 1.2 million GSF 2016	John Floros Dean, College of Agriculture Director, Research & Extension 785-532-6011 floros@k-state.edu
California State University, Fresno, Jordan Agricultural Research Center, Fresno, California RFD	This shared research facility houses over 10,100 square feet of laboratory research and laboratory support space for the College of Science and Mathematics, Lyles College of Engineering, and the Jordan College of Agricultural Sciences. Research for Environmental Quality, Bioenergy Systems, Genomics and Plant Physiology is conducted in the open laboratories on each floor, while specialized, isolated laboratory spaces have been designed for work related to Microbiology, Pathology and Entomology research. Dedicated lab spaces to support these research functions include sterilization, media prep, incubator/freezer rooms, instrument analysis, and controlled environment rooms.	GSF: 34,000 Cost/SF: $508 Completed: 2016	Debbie Adishain-Astone AVP for Auxiliary Operations California State University, Fresno debbiea@csufresno.edu (559) 278-4240
Durham Research Center II, University of Nebraska Medical Center, Omaha, Nebraska RFD	99,700 NSF of laboratory and laboratory support space in a 250,400 GSF Building, for the Departments of Pathology and Microbiology, the Center for Biosecurity and the Nebraska Public Health Labs. This facility includes laboratory and laboratory support space for the Developmental Biology (Stem Cell) and Neuroscience Centers of Excellence. Facilities include General Developmental Biology and Neuroscience Laboratories supported by Core Facilities including Molecular Diagnostics, Chemical Terrorism laboratories, Micro Array, Monoclonal research, Protein Analysis and Biosafety Level Three (BSL-3) Containment Laboratory. Other laboratory support spaces include cell and tissue culture rooms, instrument and equipment rooms, imaging/dark rooms, a controlled temperature rooms and a 12,687 SF vivarium.	GSF: 250,000 Cost/SF: $253 Completed: 2009	Mike Faber Manager, Capitol Projects University of Nebraska Medical Center (402) 559-4503 mfaber@unmc.edu

Project Name & Location:	Brief Project Description:	GSF, Cost/SF, & Year Completed:	Owner Contact Info:
Tietz Hall/ARC Remodels/Study Montana State University Bozeman, MT	See Below	SF: Not Applicable Constructed in 2005-2014	State of Montana Architecture and Engineering Division Helena, MT 406-444-3104

VARIOUS PAST GPD PROJECTS FOR ANIMAL RESOURCE CENTER (TIETZ HALL)

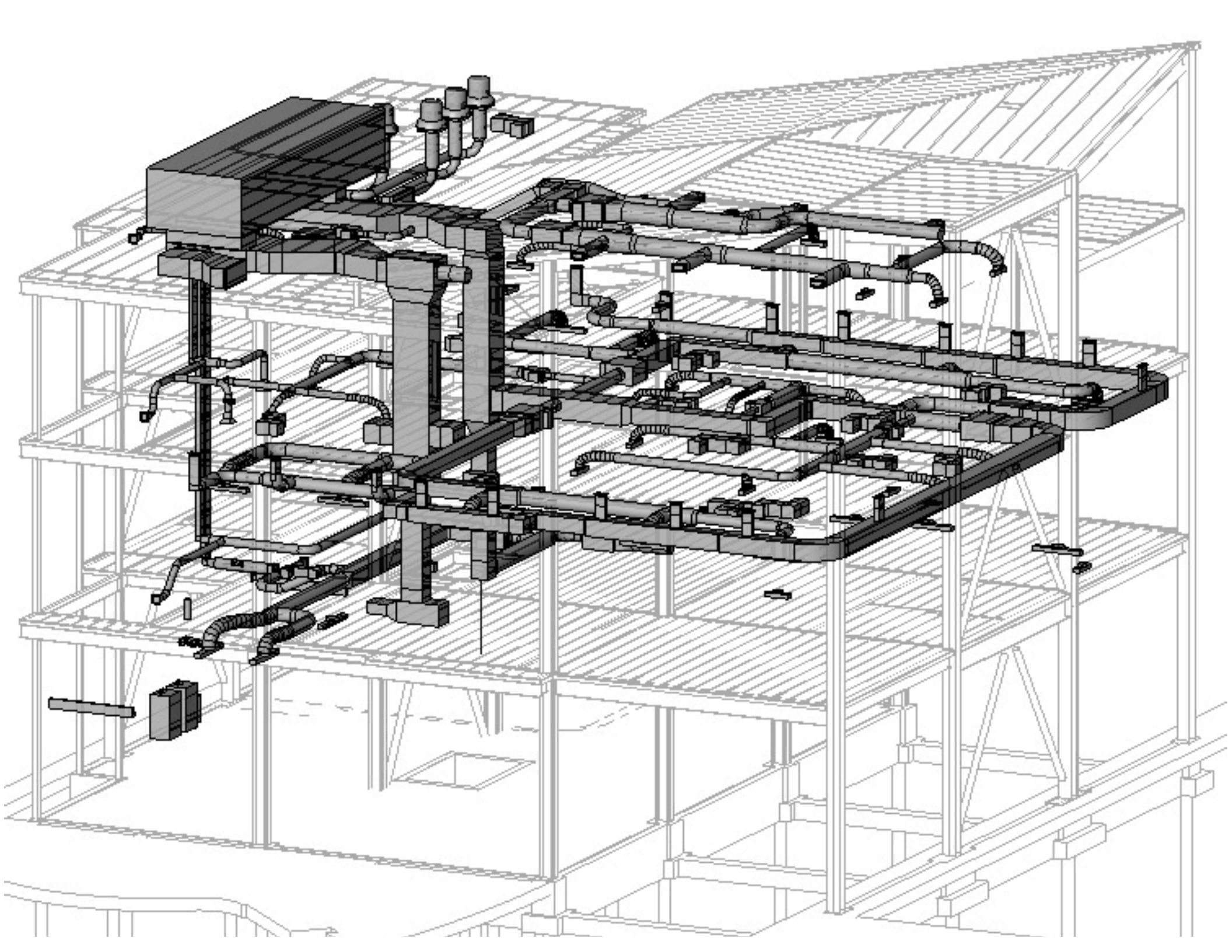
GPD has worked on varius small projects and studies in Tietz Hall, including those listed below.

- Cage Wash and Autoclave Project - In 2005-2007, GPD completed projects to replace a Cage Wash Machine and Autoclave, which also required a new Steam Generator to accommodate the new steam load. The project included creating a new room to in the existing Cage Wash Room. As part of that work the electrical service required modifications to accommodate the new electric steam generator.
- BSL3 Animal Holding Room – In 2005 GPD developed Construction Documents to modify one of the existing Animal Holding Rooms into a BSL3 Room to allow housing infected animals. Ultimately with changes to the program this project was not constructed.
- Critical Systems Study – In 2013 GPD conducted a system evaluation of the MEP systems for the Animal Resource Center (Tietz Hall) and developed concept plans and construction estimates for upgrades and replacement of the existing systems. This study is the basis of the project current for this RFQ.
- Boiler System Replacement – In 2014 GPD completed construction documents and project management to replace and upgrade the defunct gas boilers that are the only means of redundant heat in the building as well as upgrading air handling unit controls and the heat recovery/fresh air preheat systems.

Project Name & Location:	Brief Project Description:	GSF, Cost/SF, & Year Completed:	Owner Contact Info:
Cooley Lab Renovation Montana State University Bozeman, MT	See Below	30,000 Square Feet New Construction $15 Million Construction Cost Constructed in 2008	State of Montana Architecture and Engineering Division Helena, MT 406-444-3104

Cooley Laboratory Renovation project was a complete renovation of the building at a project cost of $15 Million. The project was funded through a NIH Grant and the project construction had to meet the stringent requirements of the National Institutes of Health's Design Requirements Manual which are minimum standards for Laboratory and Animal Facilities for NIH. The spaces were primarily made into state of the art laboratories designed to be flexible enough to support multiple forms of research. The mechanical and electrical Systems were completely replaced throughout the facility. The building was seismically upgraded to meet current code requirements and NIH Standards.

The project included adding a new mechanical penthouse to locate all the new HVAC systems. A new high efficiency chiller was added, along with a heat pump heat recovery system and other energy savings features. As part of the design, the project also included a new electrical distribution system for the building that included a new emergency power generator. The completed laboratory received LEED Gold certification.



DSA Firm Profile

Address:
55 West 14th Street, Suite 103, Helena, MT 59601
406-457-5470 ph, 406-495-0063 fax

Web: www.dsa-mt.com
Firm Principal: Michael W Dowling, AIA, NCARB

Teaming and Collaboration are core values that define DSA. Embracing client involvement, respecting the input of every team member and collaborating at all levels of design and project delivery are traits the firm has grown to represent. Change is inevitable. Growth is not measured in numbers but instead by how a firm chooses to define itself as a result of its work and the challenges we face. In 1995, Firm Principal Michael Dowling set out to establish a body of work within the State of Montana that would be admired and respected for its contribution to society, the public and the profession of architecture. Each and every project the firm undertakes builds on this foundation and strives to achieve greater levels of success for our clients and the specific goals they have in their endeavors. From Master Planning to the smallest addition, our clients are our most important team members.

DSA is committed to excellent design, quality work, and repeat clients. Our design philosophy is grounded in the idea of collaboration and integration. We engage all participants in learning about a place through its history, its people and its connections, to envision a place that defines its own character. Our ability to solve problems, coordinate and organize the project team, and provide appropriate design has been the cornerstone of delivering successful projects.

Of primary value to DSA is making good choices for the impacts we create on the environment. We take our responsibility in helping to establish that history very seriously. New buildings are literally set in stone. We have but one chance to achieve the full potential of any project in terms of design, function, infrastructure and presence. As a community grows, it becomes ever more important that collective ideas mold the future of the built and un-built areas. Toward this end, integrated design that meets the client and community needs is of highest priority.

Staff

Firm Principal	**Current Registrations**
Michael W. Dowling, AIA, NCARB	MT, WA, ND, SD
Registered Architects	
Scott Deitle, AIA, NCARB	MT
William Grant, AIA	MT
Intern Architects	
Michael Frudakis	
Matt Friedmeyer	
Administrative	
Sherri Dowling - Office Manager/HR	
Courtney Umstead	

Honors & Awards

Carroll College Hunthausen Activity Center, ACEC Engineering Excellence Honor Award, 2017

U of M Law School Addition - 2012 Montana Masonry Award

Gaines Hall Renovation, MSU - 2010 Mountain States Construction Bronze Award for Outstanding Higher Education Project

MSU Marga Hosaeus H&PE Complex, Bozeman, MT - 2010 NIRSA Outstanding Facility Award

UM Lewis & Clark Villages Graduate Student Housing - 2007 AIA Montana - Design Award

Helena Independent Record Press Facility - 2004 Concrete Excellence Award

Expedition Block Office Building - 2003 Metal Architecture Honorable Mention

UM Student Recreation Center
2003 Concrete Excellence Award
2004 AIA Montana - Design Award
2003 College Planning & Management - Recognition

MDT Sweetgrass Rest Area - Montana Concrete Contractors - Top Honors

Great Northern Town Center
2003 Design Cost Data - Published
2007 Sonoran Institute
US EDA - Excellence in Economic Development Finalist
1998 AIA Montana - Design Award
1998 New York Times - Recognition, August 2
Sierra Club - Recognition

Stakeholder Involvement

DSA has proven over the years that we have unique skills in involving stakeholders at all levels in the planning and design process. Students, faculty, staff and administration must have a voice in the outcome of their project. Utilizing an intensely involved process of stakeholder involvement, our team facilitates a process by which consensus can be reached and goals realized in all aspects of the built environment.

The tools we use are unique to each project's needs. Planning is unique to each project site. Interior planning, circulation, flow and character of space is critical to the positive outcome of the places we create. Input from the building users and community is critical in establishing the priorities of the project. In the end, it takes a talented team to create the ambiance of the space through color, material choices, lighting, fabric and placement of furniture.

We like to think of ourselves as facilitators in the early stages of project development. Our goal is to work with our clients to create the building and spaces that *THEY* desire to achieve.

Process

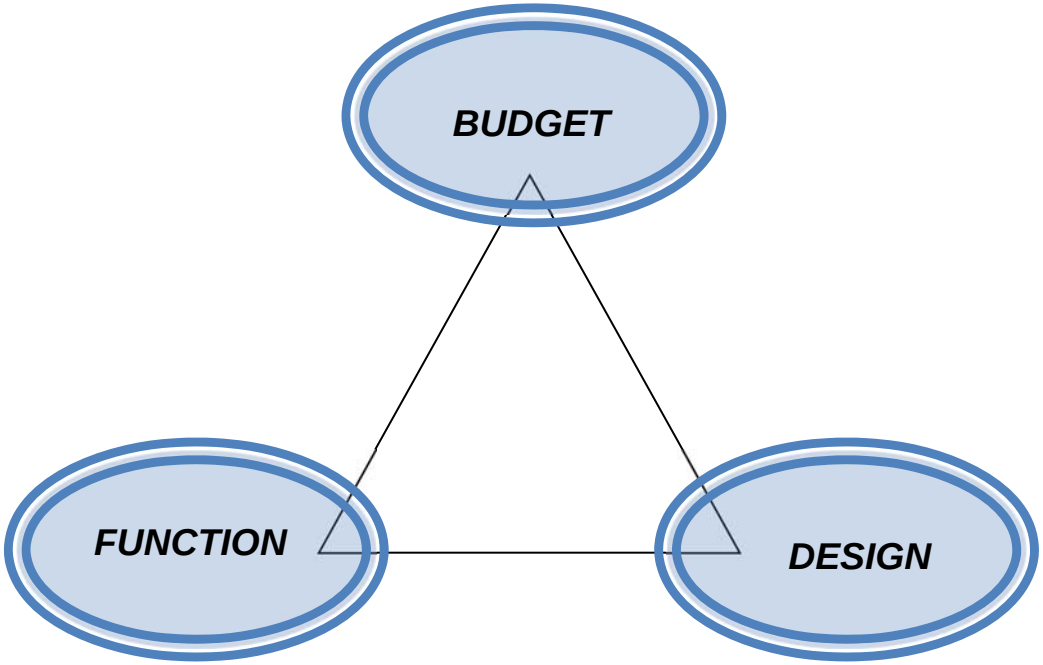
At DSA we believe that the process we use is unique in creating great buildings and great places. We do not have preconceived ideas about what buildings should be. Each project is unique, requiring a great amount of effort to determine what the right solution needs to be. As such, we need to get to know our clients, the users or tenants.

We have developed a process which brings our clients to the table with our architects in an interactive work session format to move through the design process.

The following few pages give a brief synopsis of this process and how it differs from the traditional model.

We do not believe in pre-determining solutions. As such, we cannot present design solutions before getting "*into the trenches*" on a project.

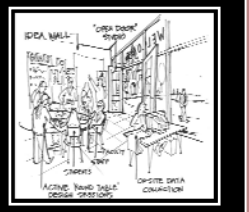
- ***Establish a Project Vision***
- ***Set up workshops***
- ***Determine Opportunities***
- ***Determine Constraints***
- ***Establish Priorities***
- ***Research Phase***



Process - Group dynamics, Consensus Building - On-site workshops

Kickoff

- 1/2 day Workshop
- Stakeholders
- Goal Setting
- Set the Sideboards



Work sessions

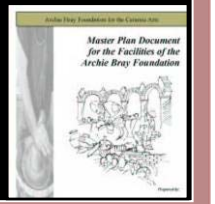
- Planning Charettes
- Meetings with stakeholders
- Design sketches
- Circulation diagrams

- Design Charettes
- Meetings with stakeholders
- Image sketches
- Planning options
- Individual work sessions

- Collaborative Design
- Meetings with User Groups,
- Vignettes
- Sketches
- Planning
- Layout
- Late night

Wrap-up

- Finalize concepts
- Prepare for afternoon charette
- 1/2 day afternoon feedback workshop
- Finalize notes



Process - Tools

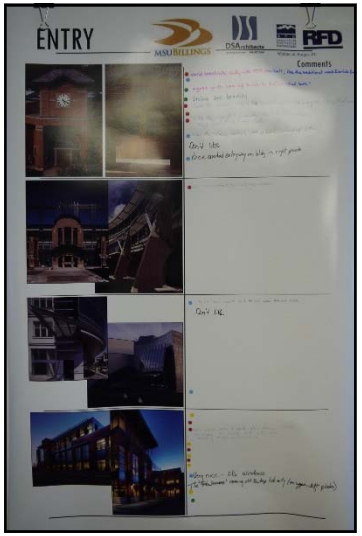


Image idea board

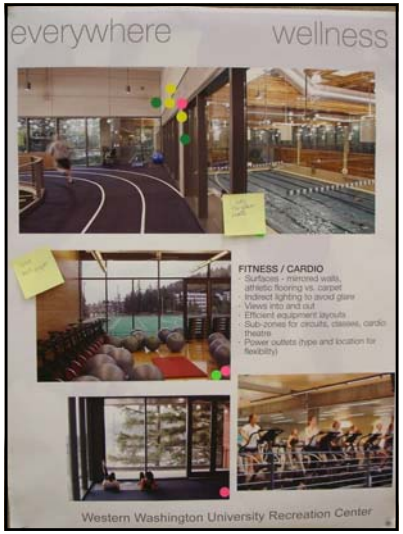
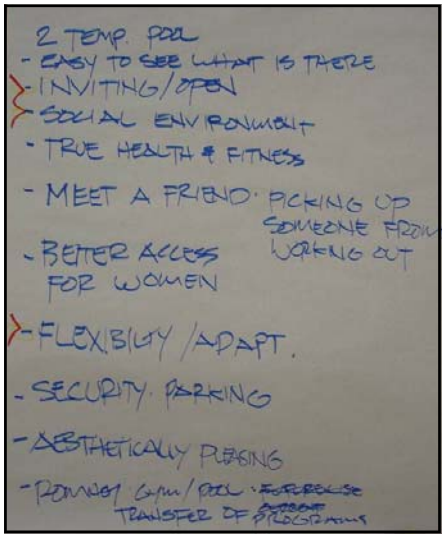
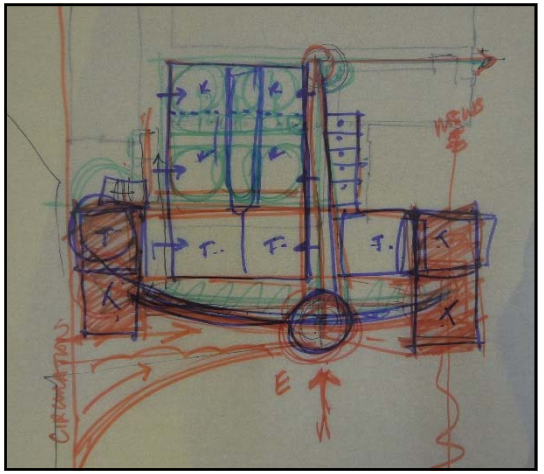
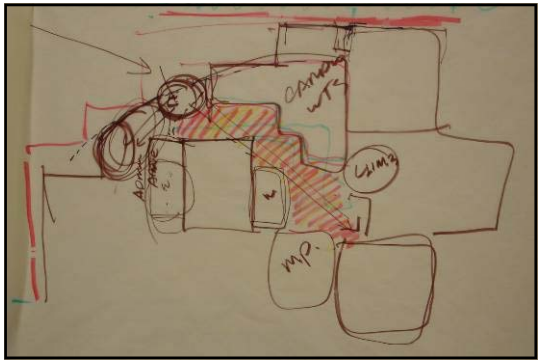


Image idea board



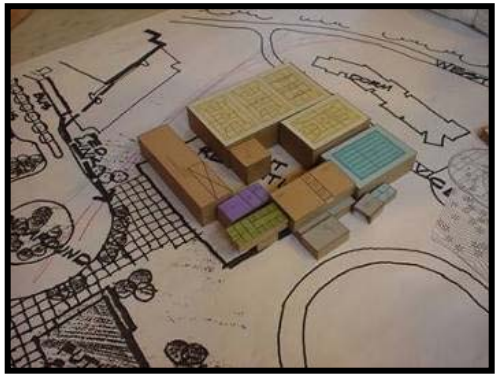
Goal Setting notes





Concept Diagrams

On-site study model



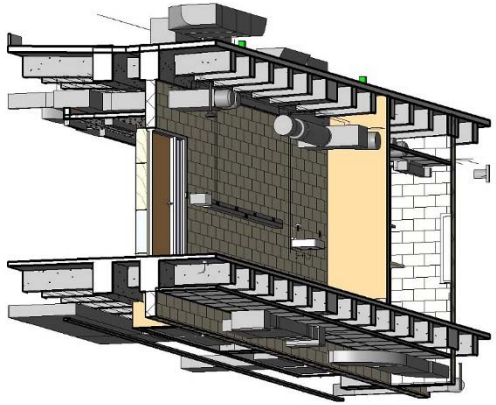
Study model

Integrated Project Delivery & BIM

An Integrated Practice focused on Integrated Project Delivery

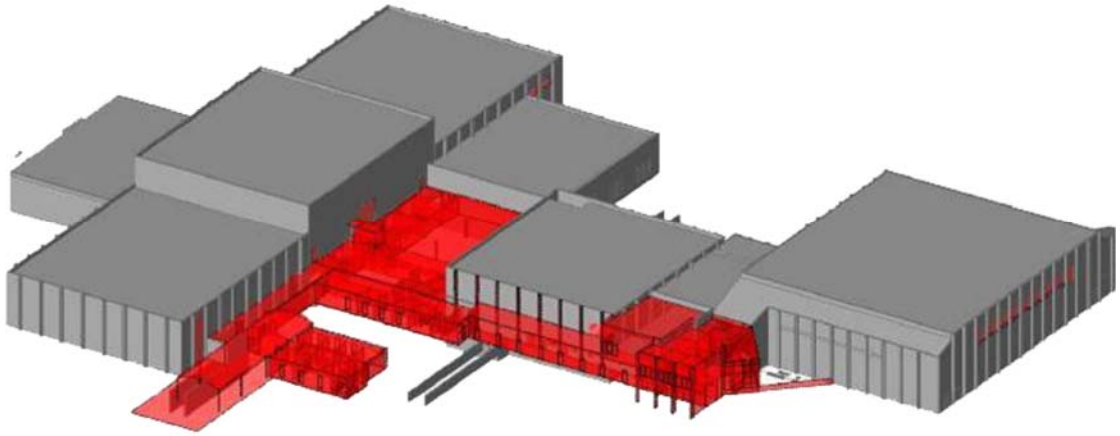
Integrated Project Delivery is an approach that combines people, systems, business structures and practices into a collaborative process. This process utilizes the talents and insights of all participants to **reduce waste and optimize efficiency** through all phases of design and construction.

Building Information Modeling (BIM) is a virtual design tool that makes Integrated Project Delivery (IPD) possible through effective collaboration and communication in the design and construction process. It allows design and construction disciplines to contribute diverse expertise in order to achieve owner goals in a virtual model prior to physical construction. Using BIM helps to ensure the building is cost effective by providing quantification metrics, reducing errors and unknown design conditions, and resolving construction conflicts**. BIM is, by nature, an excellent tool for the collaborative process of design, delivery, and communication of architecture.**



In summary, BIM:

- ***Allows for a quicker design process with better visualization***
- ***Reduces conflicts in Construction Documents***
- ***Reduces Change Orders***
- ***Speeds up construction***
- ***Results in lower bid prices and lower construction costs***



Why are we so committed to BIM?

Just take a look at these two cross sections of our model for Gaines Hall Renovation.

Our design team is forced to coordinate the full layout of every piece of mechanical equipment, piping, electrical lighting, structural beams and floor penetration in the building *BEFORE* it goes out for pricing.

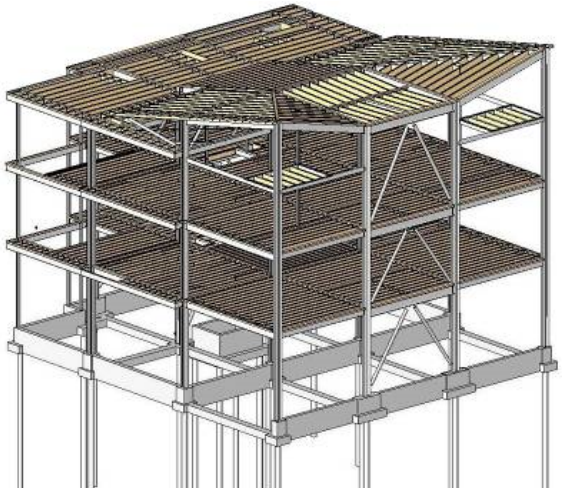
Daylighting analysis allows us to reduce the amount of light fixtures in the building, saving on initial cost as well as life-cycle energy use.

Heat load analysis takes into account solar exposure, glass type and interior surface absorption. Mechanical systems can then be sized appropriately.

Specifications can be extracted directly from the model based on actual intelligent components.

Cost Estimates are more accurately assessed as the team can pull quantities of materials directly from the model and cross check them with quantities suggested by material suppliers.

Coordination with the construction team results in never needing to guess what is intended.



LEED and Sustainable Design

This is a list of projects that DSA has designed to LEED Certification standards. In some instances, the client has opted not to follow through with the actual certification.

2018 Carroll College Hunthausen Activity Center - Helena

- LEED Silver Certified
- Carroll College

2017 DNRC Office Building - Helena

- LEED Gold Certified
- D&M Development - Owner

US Citizenship and Immigration Service - Helena

- LEED C.I. (pending)
- Archway Development - Owner

MSU Billings Life Sciences Building - MSU Billings

- LEED Silver Certified (in design)
- Montana State University - Owner

Gaines Hall Renovation - MSU Bozeman

- LEED Silver Certified
- Montana State University - Owner

2008 Bozeman Residence

- LEED Certified Gold - Residential
- Mike Wiseman - Owner

DNRC Office Building

MSU Gaines Hall Renovation

Carroll College Rec Center

GOLDEN EAGLE
CONSTRUCTION, INC.
Helena, Montana

Phone: 406-449-7228 Fax: 406-449-2290 www.goldeneaglehelena.com

To Whom it may Concern:

It is with great pleasure that I recommend DSArchitects for any project you may have. We have had the pleasure of working with Mike Dowling and his staff on many projects both in the residential and commercial sectors. We have had the opportunity to work with DSA on all delivery methods including; public bid, GC/CM and Design/Build. I can say without hesitation that DSA delivers a high quality product with excellent customer service. We at Golden Eagle have always found Mike and his team very enjoyable to work with on projects and they are always solution orientated to create the best possible product for the client.

Most recently, we had the pleasure of working with the DSA team on Citizens Alliance Bank in Lincoln, MT. This project had some very specific design challenges in regards to previous land use. Mike and his team had done such a phenomenal job mitigating these during design that it not only made our job very easy once we were on site but it also kept the project on schedule.

If you have any additional questions in regards to our experience with DSArchitects please do not hesitate to reach out.

Best Regards,

Adam Senechal
Vice President
Golden Eagle Construction, Inc.

Montana City Volunteer Fire Department

April 10, 2017

To whom it may concern:

In 2016 the Montana City Volunteer Fire Department, in cooperation with the Montana City Rural Fire District, designed and constructed a 5 Bay Fire Station with meeting facilities, living quarters, and offices. Dowling Studio Architects (DSA) was selected to guide us through the contractor selection process and the design of the station. Mike Dowling was our primary point of contact at DSA for the project.

We could not be most pleased with the assistance from Mike and his team at DSA in the design and building process, and in the layout, function, and appearance of the completed station. One particular area that impressed us was DSA's ability to integrate attractive architectural design elements into the station without adding extra costs. Mike was always prompt and available for meetings with us, and any questions or issues we had in the building process were dealt with quickly and effectively.

We would highly recommend Mike Dowling and the entire team at DSA to any Fire Department undertaking a building project. Thanks to their input our new station has exceeded our expectations in both form and function. If you have any questions or would like to visit our new station please feel free to contact me.

Sincerely,

Assistant Chief Lyn Stimpson
Building Committee Chairman
lstimpson@montanacityfire.org
406-461-4420

ADDITIONAL RELEVANT INFORMATION:

This Statement of Qualifications is to plan and design the site improvements for the **Combined State Labs Study.** Robert Peccia and Associates (RPA) is a civil engineering, landscape architecture, and land surveying firm, which offers a broad range of professional services. Our firm is organized under groups specializing in site development, structures, streets and highways, airports, traffic and transportation, storm drainage, water and wastewater, landscape architecture, land surveying and SUE, and environmental studies. Since 1978, RPA has diligently worked to establish a sterling reputation. We serve our client's needs through technical excellence, responsive understanding, and sound judgment.

Site Development:
RPA utilizes its broad experience in a team approach to address complete site development needs. A full complement of civil engineering, surveying, and landscape architectural staff is available to address the development of colleges and institutional campuses, military facilities and installations, urban and suburban centers, and commercial and residential projects. These developments often place great demands on infrastructure. Good planning and engineering in the early stages assure that orderly development can occur. Our services begin with the collection of basic data and issues, and continue through to construction administration and site occupation. RPA is committed to providing excellent services to our clients in the planning and design of their site development projects. Our project team evaluates specific issues in terms of topography, environment, pedestrian and vehicular access and circulation, drainage, utilities, adjacent land uses, geotechnical information, existing vegetation and development requirements, and restrictions. Our surveyors utilize modern electronic distance measuring/data gathering equipment in the preparation of site surveys, which includes topography, utilities and all site physical features. Our engineers and technicians are experienced in infrastructure designs including design and expansion requirements. Our staff can assist in obtaining permits at the federal, state, and local levels. Our site development services include: Site Analysis (Water, Sewer, Storm, Traffic, Pavement, Sidewalks, Access, etc.); Master Planning & Infrastructure Design; Permitting; Site Surveys; Preliminary Engineering; Design Plans and Specifications; Environmental Review; and Contract Administration.

Related Projects:
RPA has related experience in a variety of structures, parking, storm drainage, pavement design, and site development projects as demonstrated by the following list of projects: **Gallatin Hall – MSU**, Bozeman, MT; **Montana City School**, Montana City, MT**; MSU North Field House Parking Lot,** Bozeman, MT; **Centennial Hall at Montana Tech,** Butte, MT; **MSU-Utility Tunnel (Phases III & IV),** Bozeman, MT; **Helena Aviation Readiness Center,** Helena, MT**, Bozeman Readiness Center,** Belgrade, MT; **Great Falls Readiness Center,** Malmstrom AFB; **Havre Readiness Center**; **Fort Harrison CST Ready Building, Counter IED Training Facility, Infrastructure Improvements: Phase I, II & III, Fort Harrison Master Plan, Fort Harrison Storm Drain Master Plan, Building 517 Improvements, Troop Medical Clinic, Fort Harrison Mess Halls, DES Command Building, Storm Drainage Improvements, Sanitary Sewer Improvements, Road Improvements, Regional Training Center, Basic Officers/Basic Enlisted Quarters: Phases I & II, Tool Recycling, Blivet Storage, Post Engineers Maintenance Facility, VA Hospital OEF/OIF Clinical Expansion, SASMO/FRA Addition, CSMS Drainage and Parking Improvements,** Fort Harrison, MT; **Helena Aviation Readiness Center,** Helena, MT; **Montana Department of Military Affairs ADRS Projects**, Kalispell & Libby, MT; **Montana Developmental Center**, Boulder, MT; **Army Aviation Support Facility,** Helena, MT; **Montana State Hospital,** Warm Springs, MT; **Pine Hills Juvenile Correctional Facility,** Miles City, MT; **Summit Design & Manufacturing**, Helena, MT; **East Helena Middle School**; **Assisted Living Facility** (Phases I & II), Butte, MT; **Buffalo Commons PUD**, Kalispell, MT; Butte, MT; **Powell County Memorial Hospital**, Deer Lodge, MT; **Kalispell SID 343**.

SIGNATURE (signature should be that of the firm's principal/owner)

Jeff Key, PE	Jeff A. Key
NAME	SIGNATURE
President	February 7, 2018
TITLE	DATE

ADDITIONAL RELEVANT INFORMATION:

During the past 10 years GPD has worked with MSU on several significant projects at the MSU Campus giving us the opportunity to work with facilities and IT staff on the campus. This experience has made us familiar with the expectations and standards that MSU has for their projects. Recent projects include:

Tietz Hall (Animal Resource Center) Critical Systems Upgrade.
Cooley Lab Renovation (50,000 SF)
Animal Bioscience Facility (50,000 SF)
Marsh Laboratories (Small Animal Bio-Safety Level 3 Facility and Large Animal BSL2-Ag Facility).
Agricultural Bioscience Facility (40,000 SF)

Additional State of Montana owned Instructional and Research Laboratory experience include:

- Missoula College, Missoula, MT - 100,000 SF Facility which included Programs include their Culinary, Business, Health Professions, Applied Arts and Sciences, and Applied Computer and Electronics Technology. Spaces include large and small classrooms as well as a complete operational kitchen and dining area as well as a cadaver lab.
- Integrated Science Building, UofM, Missoula, MT – this was a 60,000 SF, 5 story Building with Teaching and Research Laboratory spaces throughout.
- Skaggs Building Addition, University of Montana, Missoula, MT – This was a 50,000 SF 5 story building with Teaching and Research Laboratory spaces throughout.

State of MT Cogswell Building Remodel/Upgrade, Helena MT – This project involved construction of a new BSL3 lab along with remodel of other lab and administrative functions.

Additional Research Laboratory experience include:

- Rocky Mountain Laboratories – Hamilton MT – the current engineers at GPD has been working at RML since 1990 on various projects at the Lab. Since 1989 GPD has held the IDIQ contract and done over 100 task orders on various remodel and new construction projects around the campus ranging from new Central Infrastructure to new and remodeled laboratories and animal spaces. Projects include:
- Renovation of Building 13 – complete remodel of Building 13 to include animal holding rooms for small animals and primates as well as cage washing facilities and bedding storage.
- New BSL3 Animal Holding and Research Laboratory Building.

Remodel and renovation of numerous individual labs and groups of labs to repurpose the lab spaces and accommodate various other functions such as electron microscopes, Robotics, Genomic Research, Wet and Dry Labs, conversion to handicap accessible labs, seminar spaces, etc.

GENERAL INFORMATION:

GPD, PC. has been in business for over fifty years. The company was founded on a vision of quality and Our core values are to provide the very best in engineering consulting and to produce the highest quality strategy includes continual training of our staff and retention of our valued employees. We cherish long and prosperous with a number of clients for whom we have worked over a span of decades.

We have provided extensive design services at nearly every major Montana campus for higher education along with many other State buildings, including trade school and vocational institutions. We believe our depth of experience with campus facilities and systems and with renovation of major facilities on a limited budget make us an asset for projects such as this. Our goals will be to help prioritize needs and desires for the building systems and to help make design decisions today which will have a positive impact to the operation and maintenance needs of the facility for the next several decades to come.

We believe strongly in the formation of experienced design teams comprised of independent experts and respective strengths over "full-service" or "multi-discipline" firms geared solely for marketing and profitability.

Our team of 15 professionals at GPD, PC. includes mechanical and electrical engineers, designers, project managers and administrative staff. We are able to effectively meet the challenges of projects of all sizes.

We are members of the Green Building Council and currently have three LEED AP engineers on staff. We are cognizant of both the economic and environmental impacts of design decisions. We strive to help our client's decisions which are both financially prudent and environmentally sound.

At GPD we consider Construction Administration to be a professional service necessary for completing a project in a timely fashion. GPD has developed Construction Administration and Project Management skills from many years' experience in the construction of specialized facilities for the commercial, health care, educational, and industrial sectors. All of our CA and PM team possess the skills and technical knowledge necessary to project leadership and direction for our projects.

We at GPD, PC. are proud of our record of solid accomplishments and full range of diversified services. We look forward to discussing new ways of leveraging our skills to satisfy our client's needs. When it comes to specific needs, we invite you to call on us to discuss how we can serve you. You will find that we are always eager to talk to people who need professional advice in making their goals a reality.

SIGNATURE (signature should be that of the firm's principal/owner)

Daniel E. (Bucky) Kempa	
NAME	SIGNATURE
President	February 9, 2018
TITLE	DATE

SIGNATURE (signature should be that of the firm's principal/owner)

Michael W. Dowling	Michael W. Dowling
NAME	SIGNATURE
President	February 12, 2018
TITLE	DATE

Research Facilities Design

At-A-Glance

Projects

- 1,000+ Science Building Projects
- Laboratory Facility projects completed in:
  - 6 continents
  - 16 countries
  - 50 states
- More than 2,500,000 gross square feet of laboratory facilities planning each year
- More than 1,000,000 net square feet of laboratory programming and design each year

Awards

- 109: Design Awards received for Laboratory Building projects
- 6: RFD projects awarded recognition in the R&D Magazine "Laboratory of the Year" program

LEED Projects

- 8: Platinum Certified Projects
- 66: Gold Certified Projects
- 21: Silver Certified Projects
- 4: Certified Projects

Clients

- More than 335 Private & Public Higher Education Clients
- More than 200 Research Institution, Industry and Government Clients
- More than 400 Architectural Teammates, nearly 150 Repeat Architectural Teammates

Firm & Staff

- 4 Principals
- 5 Licensed Architects
- 8 LEED Accredited Professionals
- 2 Mechanical Engineers
- 25 Staff Members
- 34 years of experience

Industry Organizations

RFD supports and actively participates in the following organizations:

- SCUP (31 years)
- Tradeline (26 years)
- PKAL (24 years)
- AALAS (16 years)
- SEFA (16 years)
- I^2SL/Labs 21 (9 years)

Firm Profile

RFD THE FIRM

Research Facilities Design (RFD) is a firm of laboratory design consultants focused exclusively on the programming and design of laboratory buildings for industry, healthcare, research and education. Located coast to coast with offices in San Diego, California and Raleigh, North Carolina, RFD's staff of architects, engineers, and laboratory planners work cohesively to provide seamless project management and delivery.

FOCUS

RFD's practice has been built with 100% focus on the programming, design and execution of laboratory, support and core facilities. We do not provide any other services or work on any other project types. As such, our dedicated focus enables us to stay current with the latest trends, standards, codes, regulations and guidelines which impact this specific facility type as well as the ever-changing technology of laboratory furnishings, fume hoods, equipment and instrumentation.

BENCHMARKING

RFD has an unparalleled database of critical area and cost benchmarking information. We have gathered this information from hundreds of projects over the past 30 years representing a range of science and engineering facility types. When working on a new project, we select the most appropriate representative projects from our historical database to help validate a variety of area and cost ratios during Programming. These ratios include Net/Gross Area ratio, ratio of Laboratory to Laboratory Support Space, Laboratory Density, and Construction Cost/GSF. This process helps give the Owner and Design Team a comfort level with the project parameters at an early stage, allowing the team to proceed into the Design phases with greater confidence.

COLLABORATIVE

Our approach to designing laboratory spaces is highly collaborative. We actively seek input from all project stakeholders including faculty members, researchers, administration staff, maintenance personnel, health and safety officers - as well as the other members of the design team. Within our office itself, our approach follows a similar paradigm whereby intelligent discourse amongst professionals with their own experiences and opinions leads to solutions which are greater than the knowledge of any one individual.

LABORATORY ENGINEERING SERVICES

RFD's in-house mechanical engineers provide a range of planning, design and consulting services to the Architect and Building Engineers. Our goal is not to eliminate the need for the local MEP engineering team, but to augment and guide the team by preparing laboratory systems design criteria during Programming, laboratory equipment heat gain calculations during the Design Development Phase, and coordination reviews between the laboratory and building system components during the Construction Documents Phase.

RFD also offers additional Laboratory Engineering services such as Laboratory Plumbing (LP) Engineering, Laboratory Electrical (LE) Engineering, and Enhanced Laboratory Engineering. When RFD is contracted to provide the LP and LE services, our engineers provide laboratory plumbing and electrical load calculations, flow rates, points-of-connection schedules, and laboratory piping and electrical design from the points-of connection in the corridor to the points of use in the laboratory. Enhanced Laboratory Engineering services may include the full design of HVAC and process piping systems for specialty areas such as cleanrooms, vivariums, GMP facilities and BSL3 suites.

AWARD-WINNING DESIGN

RFD is proud of its many award-winning innovative projects developed in collaboration with our architectural teammates. Beyond the glamour of the numerous formal awards, we find great satisfaction in developing thoughtful, innovative solutions and details to meet the specific needs of individual clients. While these innovative details do not necessarily result in broad national recognition, they make a huge difference in the daily working environment of the faculty, staff, and students who use RFD-designed laboratory facilities on a regular basis.

Richard Heinz, FAIA, NCARB, LEED AP

Principal-in-Charge of Laboratory Planning | **Research Facilities Design (RFD)**

Mr. Heinz's experience includes a broad range of laboratory programming, design and project management for complex projects, including work for College and University, Industry, Medical, and Governmental clients. He has placed a special career emphasis on undergraduate STEM facilities for public and private institutions. He has developed a broad understanding of laboratory design concepts and the resulting impact on the building's structural, mechanical and electrical systems, and is especially proficient at integrating these requirements with the working environment to produce a facility which meets the client's requirements.

Years' Experience

Years with RFD: 33
Total years' experience: 38

Education

Bachelor of Architecture, Kansas State University

Bachelor of Science, Business Administration, Kansas State University

Professional Registration

Registered Architect: Alabama, California, Delaware, Georgia, Hawaii, Illinois, Indiana, Iowa, Kansas, Kentucky, Maryland, Michigan, Minnesota, Missouri, Montana, Nebraska, Nevada, New York, North Carolina, Ohio, Oklahoma, Pennsylvania, South Dakota, Tennessee, Texas, Utah, Virginia and Wyoming

Organizations

AIA / Member: American Institute of Architects

LSC / Learning Spaces Collaboratory

NCARB / National Council of Architectural Registration Boards

PKAL / Project Kaleidoscope

SCUP / Society for College and University Planning

SEFA / Scientific Equipment & Furniture Association

USGBC / U.S. Green Building Council

PROJECT EXPERIENCE

Chemistry Research Building
Montana State University
Bozeman, Montana

Gaines Hall Renovation
Montana State University
Bozeman, Montana

Norm Asbjornson Innovation Center
Montana State University
Bozeman, Montana

Food & Agriculture Systems Teaching, Extension & Research (FASTER) Facility Master Plan
Kansas State University
Manhattan, Kansas

Christopher S. Bond Life Sciences Center
University of Missouri, Columbia
Columbia, Missouri

The School of Medicine Research Building
University of California, Riverside
Riverside, California

J.D. and Mary West Science Laboratory
Southern Nazarene University
Bethany, Oklahoma

R & D Facility
LGI, Inc.
Ankeny, Iowa

Boyce Hall/Webber Hall Renovation
University of California, Riverside
Riverside, California

Havens Science Center Addition/ Renovation
Wilson College
Chambersburg, Pennsylvania

The Robert Hung Ngai Ho Science Center
Colgate University
Hamilton, New York

Science & Technology Building
Peninsula College
Port Angeles, Washington

Merrill Hall Horticultural Research Building
University of Washington
Seattle, Washington

Science Facilities Addition & Renovation
Albion College
Albion, Michigan

Jordan Hall of Science
University of Notre Dame
Notre Dame, Indiana

Robert V. & Jeanne S. Antonucci Science Complex Modernization
Fitchburg State College
Fitchburg, Massachusetts

Foundational Sciences Building
Ball State University
Muncie, Indiana

Macelwane Science Building Renovation
Saint Louis University
St. Louis, Missouri

John Lewis

Laboratory Consultant | **Research Facilities Design (RFD)**

Mr. Lewis is responsible for laboratory programming, planning and design, and managing production. He is also in charge of planning, coordinating and supervising the development of Program Drawings and Design Criteria, Design Development and Construction Documents. This includes, but is not limited to, interviewing users in work sessions, interpreting data collected in user meetings, and developing project specifications and detailed cost estimates. Mr. Lewis evaluates the client's needs and budget requirements, and makes recommendations to solve the client's problem within the budget constraints. He is responsible for coordinating the design of laboratory furnishings and equipment, as well as mechanical, plumbing, and electrical services.

Years' Experience

Years with RFD: 20
Total years' experience: 26

Speaking Engagements

2017 / Academic Impressions: 21st Century STEM Facilities – Aligning Learners and Lab Spaces: Modern Design for Learner Engagement. Denver, Colorado

References

John Gremmels
Senior Project Manager
Oregon State University
Facilities Services
100 Adams Hall
Corvallis, OR 97331
541.737.9692
John.gremmels@oregonstate.edu

Karen Newell-Rogers, PhD
Endowed Chair in the Department of Surgery
Texas A&M Health Science Center
254-724-5638
newellrogers@medicine.tamhsc.edu

George MacMullin
Senior Engineer
University of California, Riverside
Department of Design and Construction
Riverside, California 92521
951.827.1397
george.macmullin@ucr.edu

PROJECT EXPERIENCE

Instructional Laboratory Renovations
Montana State University
Bozeman, Montana

Durham Research Center II
University of Nebraska Medical Center
Omaha, Nebraska

Durham Research Center
University of Nebraska Medical Center
Omaha, Nebraska

Materials Science and Engineering Building
University of California, Riverside
Riverside, California

Center For Applied Energy Research Laboratory Building 2
University of Kentucky
Lexington, Kentucky

Michael B. Enzi S.T.E.M. Undergraduate Laboratory Facility
University of Wyoming
Laramie, Wyoming

Interdisciplinary Science Building
Tennessee Technological University
Cookeville, Tennessee

Genomics Research Building
University of California, Riverside
Riverside, California

Discovery Hall
University of Washington, Bothell
Bothell, Washington

Jordan Research Center (JRC)
California State University, Fresno
Fresno, California

Tracy Hall Science Center
Weber State University
Ogden, Utah

The Daniel Felix Ritchie School of Engineering & Computer Science + The Knoebel Center for the Study of Aging
University of Denver
Denver, Colorado

Science and Engineering Building II
University of California, Merced
Merced, California

Earth & Physical Sciences Building
University of California, Davis
Davis, California

Boyce Hall/Webber Hall Renovation
University of California, Riverside
Riverside, California

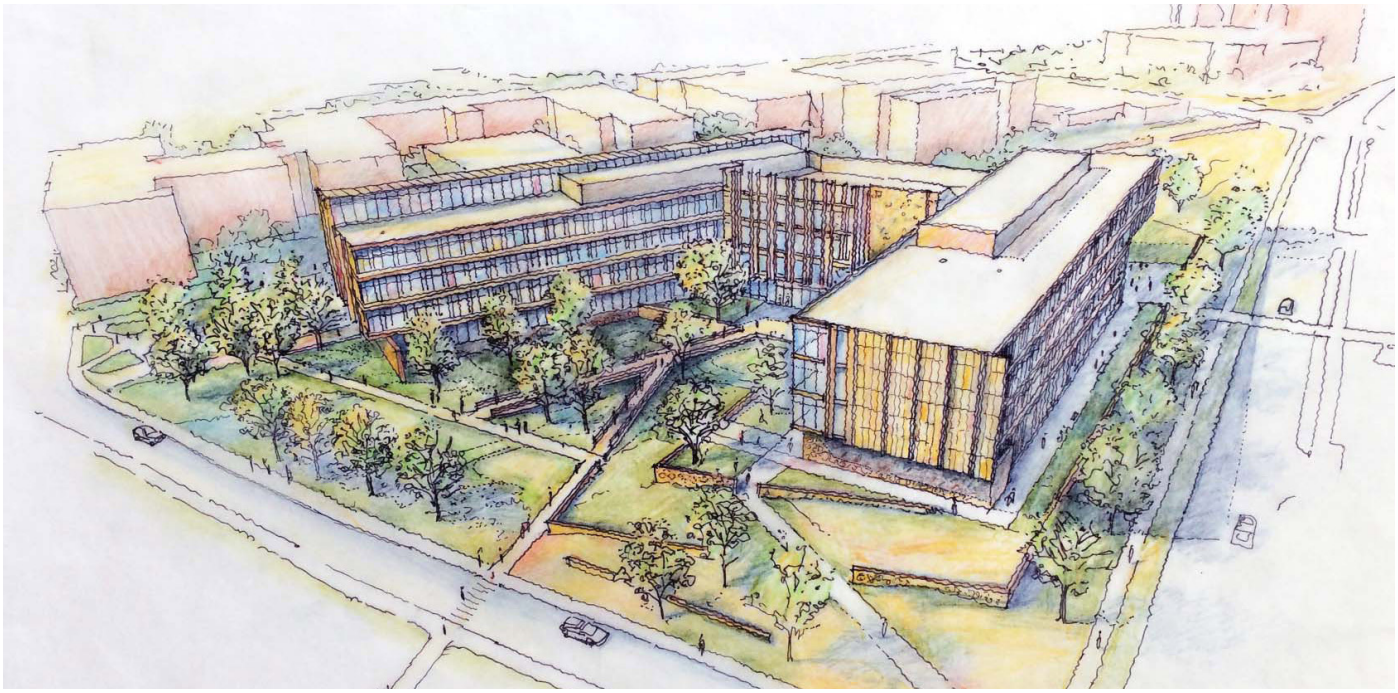
Science Building II Renovation
Portland State University
Portland, Oregon

Linus Pauling Science Center
Oregon State University
Corvallis, Oregon

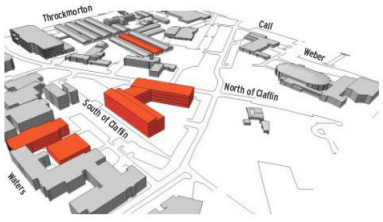
Johnson Hall for Chemical, Biological and Environmental Engineering (CBEE)
Oregon State University
Corvallis, Oregon

Food & Agriculture Systems Teaching, Extension & Research (FASTER) Facility Study

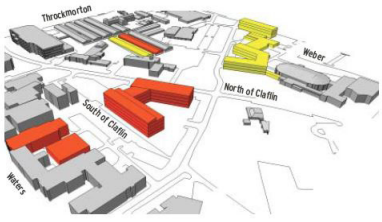
Kansas State University College of Agriculture
Manhattan, Kansas



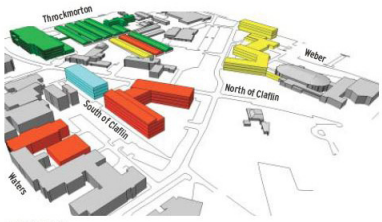
Master Planning and Preliminary Programming services for K-State College of Agriculture and K-State Extension and Research in support of the University's 2025 Strategic Plan to become a Top 50 Public Research Institution. This study included iterative work sessions with college leadership, stakeholder committee and departmental representatives from the Departments of Agricultural Economics; Biological and Agricultural Engineering; Agronomy; Horticulture, Forestry and Recreation; Plant Pathology; Entomology; Animal Science and Industry; and Grain Science and Industry. The study included analysis of College of Agriculture space in 7 existing buildings and identified the projected space needs of the College totaling approximately 1.2 million gross SF including a Phase 1 New Teaching/Research Facility of 264,400 GSF and Renovation of 36,000 GSF of existing space.



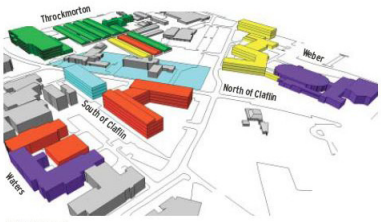
PHASE 1



PHASE 2



PHASE 3



PHASE 4

Completed
2016

Number of Buildings Analyzed
7

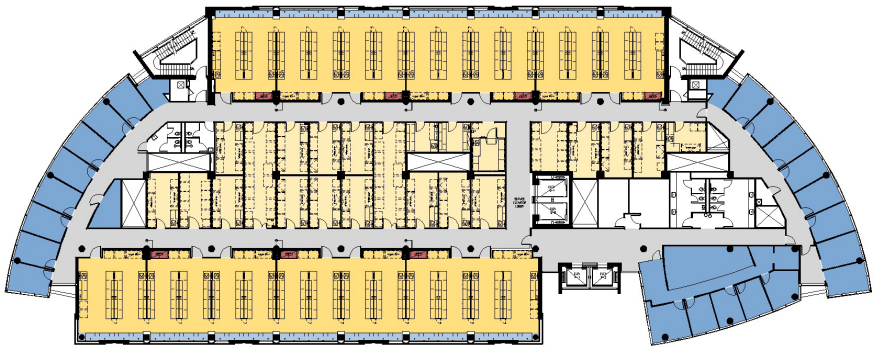
Total Analyzed Area
1.2 million GSF

Reference
John Floros
Dean, College of Agriculture
Director, Research & Extension
785-532-6011
floros@k-state.edu

Durham Research Center II

University of Nebraska Medical Center
Omaha, Nebraska

99,700 NSF of laboratory and laboratory support space in a 250,400 GSF Building, for the Departments of Pathology and Microbiology, the Center for Biosecurity and the Nebraska Public Health Labs. This facility includes laboratory and laboratory support space for the Developmental Biology (Stem Cell) and Neuroscience Centers of Excellence. Facilities include General Developmental Biology and Neuroscience Laboratories supported by Core Facilities including Molecular Diagnostics, Chemical Terrorism laboratories, Micro Array, Monoclonal research, Protein Analysis and Biosafety Level Three (BSL-3) Containment Laboratory. Other laboratory support spaces include cell and tissue culture rooms, instrument and equipment rooms, imaging/dark rooms, a controlled temperature rooms and a 12,687 SF vivarium.



Completed
2009

Award
2005 Interior Design Excellence,
American School and University

Gross Building
250,437

Net (Assignable) Building
127,301

Laboratory & Laboratory Support
99,768

Construction Cost
$63,570,092

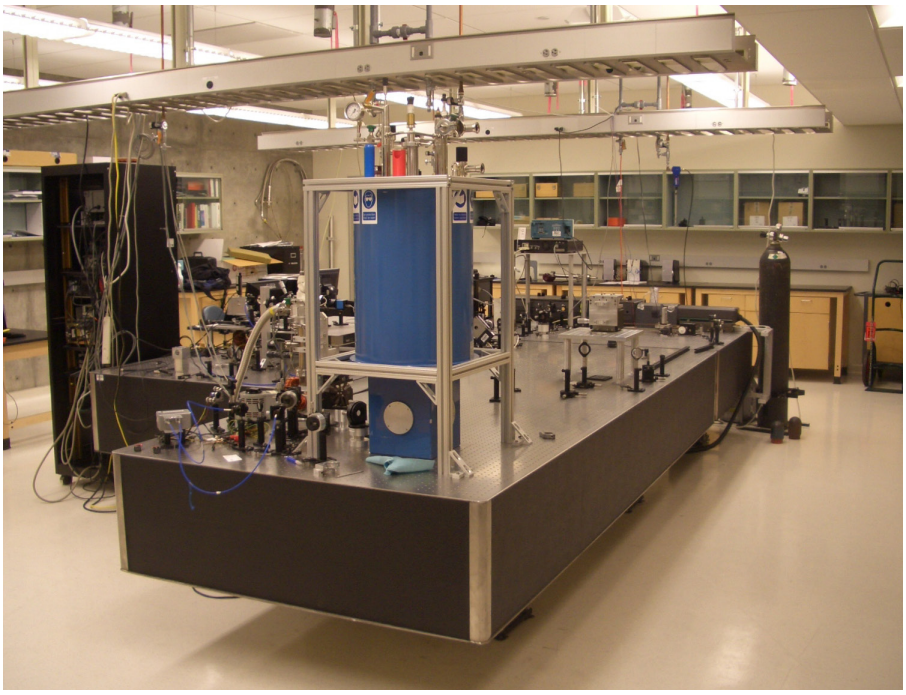
Reference
Mike Faber
Manager, Capitol Projects
University of Nebraska Medical Center
(402) 559-4503
mfaber@unmc.edu

Durham Research Center II

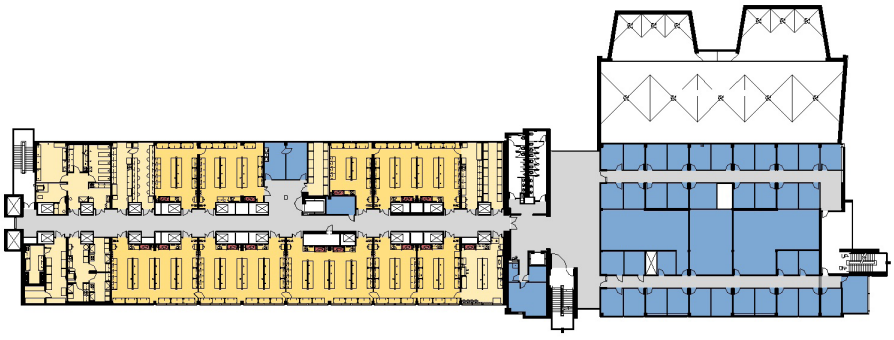
University of Nebraska Medical Center
Omaha, Nebraska

Materials Science & Engineering Building

University of California, Riverside
Riverside, California



This 155,855 gross square foot interdisciplinary research building will house over 38,000 NSF of laboratory space for both the Bourns College of Engineering (BCOE) and the College of Natural and Agricultural Sciences (CNAS). The facility will include instructional and research labs for the colleges' joint programs in nanotechnology, materials science, synthetic chemistry, bioengineering, and physics. Laboratory support spaces include a core imaging facility, cold rooms, various instrument and equipment rooms, microscopy rooms, a BSL2/3 tissue culture suite, and a 6,000 square foot Class 1,000 clean room.



Completed
2010

Awards
2012- AIA Award
Certificate of Merit: Architecture

Gross Building
155,855

Net (Assignable) Building
77,741

Laboratory & Laboratory Support
38,558

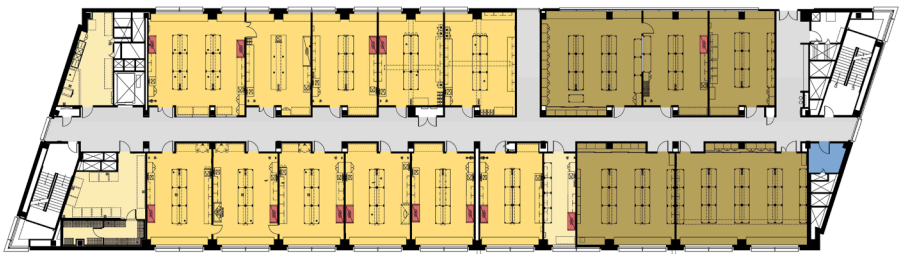
Construction Cost
$56,000,000

Reference
Jory Yarmoff
Professor of Physics
951-827-5101
yarmoff@ucr.edu

Sukup Hall for Agricultural & Biosystems Engineering

Iowa State University
Ames, Iowa

The building will house many educational and research laboratories critical to enhancing the department's global impact. Research is directed toward biosystems engineering through the use of biosensors, image analysis, biological systems modeling, and the design and control of biological systems and processes. Biorenewable and biofuels products and processes are an important focus of these research efforts. Other research efforts include agricultural water quality and management, engineering for economically and environmentally sound animal production systems, grain handling and food processing, agricultural machine design and automated controls, precision farming systems, agricultural safety, seed conditioning and processing, and soil tillage and management systems.



Completed
2014

Award
LEED Gold Certified

Gross Building
118,866

Net (Assignable) Building
66,074

Laboratory & Laboratory Support
51,781

Construction Cost
$47,189,802

Reference
Robert P. Anex
Associate Professor
515-294-6576
rpanex@iastate.edu

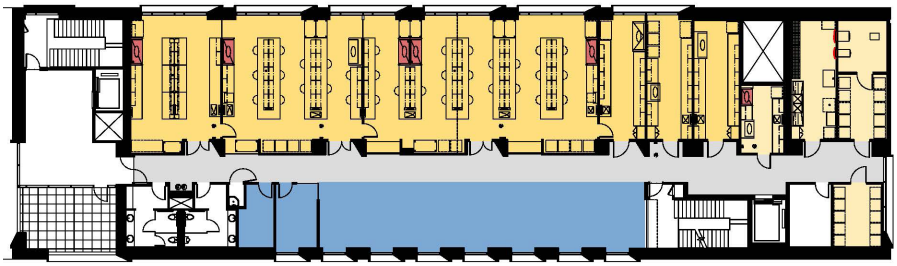
Sukup Hall for Agricultural & Biosystems Engineering

Iowa State University
Ames, Iowa

Jordan Agricultural Research Center

California State University, Fresno
Fresno, California

This shared research facility houses over 10,100 square feet of laboratory research and laboratory support space for the College of Science and Mathematics, Lyles College of Engineering, and the Jordan College of Agricultural Sciences. Research for Environmental Quality, Bioenergy Systems, Genomics and Plant Physiology is conducted in the open laboratories on each floor, while specialized, isolated laboratory spaces have been designed for work related to Microbiology, Pathology and Entomology research. Dedicated lab spaces to support these research functions include sterilization, media prep, incubator/freezer rooms, instrument analysis, and controlled environment rooms.



Completed
2016

Gross Building
34,052

Net (Assignable) Building
17,604

Laboratory & Laboratory Support
10,103

Construction Cost
$17,307,535

Reference
Debbie Adishain-Astone
AVP for Auxiliary Operations
California State University, Fresno
debbiea@csufresno.edu
(559) 278-4240