

Submitted by:



NE45 Architecture, LLC RFQ for Architectural/ Engineering Response



COMBINED STATE LABS STUDY A/E #2018-50-01

INITIAL ANALYSIS & ESTIMATING

Architectural/ Engineering Services - Request for Qualifications

February 13, 2018



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1. COVER LETTER/ STATEMENT OF INTEREST

SECTION

1



13 February 2018

Planning
Architecture
Urban Design

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

Interiors

Re: **RFQ COMBINED STATE LABS STUDY – A/E #2018-50-01**

Dear Mr. Katherman and Members of the Selection Committee:

1426 Fillmore Street

ED2 International is pleased to present our firm's qualifications to provide veterinary facilities lab planning services as an expert specialized consultant to the NE45 Architecture led team for the new combined Laboratory state labs study for Bozeman, MT. This effort promises to be a challenging one and it is our hope that you will find the credentials of our team to be uniquely suited for this endeavor. The enclosed materials address the specific evaluation criteria detailed in the Request for Qualifications and clearly demonstrate our firm's extensive and current experience in the planning and design of state-of-the-art veterinary diagnostic laboratories.

Suite 302

San Francisco

CA 94115

415/ 474-1400 T

415/ 474-9110 F

www.ed2intl.com

ED2i is a multi-discipline architectural, lab planning and interior design practice headquartered in San Francisco. For 41 years, we have expeditiously and creatively programmed, designed and realized environmentally sustainable facilities for 100+ major public, private and governmental lab clients. We are recognized as one of the premiere lab planners regionally, nationally & internationally.

ED2 International brings 250+ acclaimed modular/flexible Labs and 15 of the top 40 NSF funded research centers throughout the country. Our firm has planned and designed **36 of 61 USDA-NAHLN & AAVLD accredited (VDLs) Vet. Diagnostic Labs and 23 of 30 AVMA COE accredited Colleges of Vet. Med. in the U.S. (Most designs of any firm)**. ED2i had assisted Dr. Bill Quinn, DVM, Director Emeritus of the Marsh Lab at Bozeman over 30 years ago, by doing a walk-thru physical facilities assessment on potential corrections needed to address AAVLD accreditation concerns, affording our proposed team a special understanding of the challenges and opportunities specific to this project.

In the past ten years, our current ten VDL lab planning, assessment, fund raising and designs include major new VDLs for ISU-VDL – Ames, IA; KSVDL – Manhattan, KS; LADDL - Baton Rouge, LA; Michigan State DCPAH – Lansing, MI; MVRDL & PRDL Labs – Pearl, MS; SDSU-ADRDL – Brookings, SD; UNL-VDC – Lincoln, NE; UW-WSVL – Laramie, WY; Western University of Health Sciences CVM necropsy suite program – Pomona, CA. Based on our firm's expertise, we were recommended recently by USDA to assist in the justification for new VDLs for University of Florida – Gainesville, FL, NC State Ag. Lab at Raleigh, NC & University of Missouri's VMDL - Columbia, MO.

We have a proven track record of providing creative, cost-effective and iconic designs that both satisfy our clients' complex programmatic requirements and meet the most demanding of budget and schedule goals. ED2i's strengths are best demonstrated by the technical ability of our seasoned, savvy and skilled staff. Mr. Peter W.T. Wong, RA/1²SL/SCUP (Sr. Principal/ Architect/Lab Planner) has been integral to the successful realization of each Veterinary Diagnostic Lab undertaken by the firm and is regarded as an industry expert in sustainable, bio-contained and bio-secured lab planning and designs. Assisting Mr. Wong on this project will be Mr. Kenneth W. Young, RA (Sr. PM/Project Architect) and Mr. Philip J. Ong, RA (Technical Coordinator). Each possesses at least 34 years of technical experience as an invaluable member of the ED2i staff, and has served as senior design team leaders on most of the firm's veterinary diagnostic laboratory projects. Peter, Ken and Phil led the assessment, additions and renovations of the existing CAHFS branch labs for Fresno, Turlock, Tulare and San Bernardino and the execution of the John E. Thurman Central Reference VDL at

1. COVER LETTER/ STATEMENT OF INTEREST

(Page 2 of 2. Katherman Letter of Interest continued)

UC, Davis and DPP programs for new Turlock and Tulare labs and for the Maddy Racing Chemistry Lab at UC Davis. Our firm was also the prime architect/lab planner for the CDFA Henry J. Voss Plant Pest Diagnostic Center – Sacramento, CA which has seed taxonomy and herbarium/land, air and water toxicology diagnostic labs in addressing IPM, Integrated Pest Management and Insect/Arthropod Quarantine facilities. Ken was the project architect for the acclaimed USDA San Joaquin Valley Agricultural Science Center (An 18-Building Research Campus) in Parlier, CA.

The sub-consultants complementing ED2's project leadership are composed of firms with whom ED2 has worked successfully on a number of institutional lab projects similar in scale and technical scope to the proposed combined Laboratory by studied. Our professional relationship with these listed sub-consultant firms and key designated senior staff has spanned from 15 to 32 years. It is essential to note that our team is not an "*assemblage of qualified strangers*," but firms that have shared values; utilize a well-tested and proven delivery methodology in communication, coordination and quality controls and have Montana Licenses in their specialized disciplines/expertise. Our firms are CAD/BIM compatible and have worked efficaciously for many years with lasting friendships.

- *Structural Engineers* - KPFF Consulting Engineers – 14 projects in 12 yrs.
- *Mechanical/Electrical/Plumbing/Telecom* - West Plains Engineering – 10 labs in 32 yrs.
- *Cost Estimating* - JE Dunn, CM/Cost Planners – 10 labs in 10 yrs.

Our NE45 lead team, believes in comprehensive inclusive program validation and thorough investigation of cost-effective and cutting-edge design alternatives resulting in the creation of safe, secured, functional, enduring, innovative flexible Lab facilities design. The rightsizing of proper spatial efficiency, staffing workflows and digital, wireless and robotic technologies, while fostering social/professional staff interactions with symbolic, poetic place-making that is program-appropriate and site-specific are our team's forte. We utilize effective user-participatory design workshops with collaborative responsive listening that consistently result in the creation of memorable, sustainable and comfortable spaces. Exemplary facilities must ensure bio-containment and bio-security (BSL-2, BSL-2+/Enhanced and BSL-3 facilities) in working with accurate, rapid, reliable and safe testing of infectious agents/animals in identification, detection, quantifications and confirmation for the prevention, environmental controls of zoonotic disease outbreaks.

ED2 International is committed to direct and on-going principal hands-on management, high quality personal service by an assigned senior project architect as daily point person for the entire project duration, inclusive user participation and community engagement. A balance of aesthetics, function, sustainability, punctuality and cost/scope creep containment is mandatory in each of our VDL design. Our consultant team will provide the expertise, energies and enthusiasm necessary to produce and deliver creative, user-responsive designs in a timely and efficient manner. We look forward to meeting the selection committee to demonstrate our team's commitment, competency and chemistry in collaboration with Dr. Stephen Smith, Interim Director, his steering committee and key project stakeholders in achieving the state-of-the-art analytical/diagnostic lab facilities.

Sincerely,



Peter W. T. Wong, RA, AAAE, CSI, GRHC, I²SL, ILFI, SCUP
Senior Principal for Programming & Design, Lab Planner, Architect (C-10636)
(415) 575-2510 Direct; (415) 269-4860 Cell; pwong@ed2intl.com

2. FORM 115 STATEMENT OF QUALIFICATIONS



STATE OF MONTANA
DEPARTMENT OF ADMINISTRATION
ARCHITECTURE AND ENGINEERING DIVISION
1520 East Sixth Avenue • P.O. Box 200103 • Helena MT 59620-0103
Phone: 406 444-3104 • Fax: 406 444-3399

STATEMENT OF QUALIFICATIONS for Specific Projects (Form 115)**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 (initial analysis & estimating)	A/E #2018-50-01

PRIME FIRM INFORMATION

Firm Name:	NE45 Architecture, LLC	Contact(s)	Name	Email Address
Address: (provide mailing address also, if different)	Bozeman Office: 1216 W. Lincoln St., Suite D Bozeman, MT 59715 Great Falls Office: 1325 8 th Ave. N., Suite 102 Great Falls, MT 59401 Livingston Office: 322 W. Calleder St. Livingston, MT 59047 Mail Address: 1627 W. Main St., #325 Bozeman, MT 59715	Principal: Project Mgr: Project A/E:	Ron Nemetz, Principal Ben Erickson, Project Mgr. Jeff Lusin, Project Architect	rnemetz@ne45arch.com berickson@ne45arch.com jlusin@ne45arch.com
Phone #: Fax #:	406-577-2345			

CATEGORIES OF WORK FOR CONSIDERATION BY PRIME FIRM

ARCHITECTURAL:	ENGINEERING:
General Practice <input checked="" type="checkbox"/>	Mechanical <input checked="" type="checkbox"/>
Historic Restoration <input type="checkbox"/>	Electrical <input checked="" type="checkbox"/>

PRIME FIRM PROFILE

Year Firm was established:	2014
# of Offices in Montana (provide address & contact list if more than one):	3
TOTAL PROFESSIONALS/PERSONNEL (provide total & location-specific list):	

2. FORM 115 STATEMENT OF QUALIFICATIONS

Exterior Envelope		Structural		Architects	2: (1 BZN/ 1 LVSTN)	Mechanical	
Master Planning/Programming	X	Civil		A.I.T.	7: (5 BZN/ 1 LVSTN/ 1 GF)	Electrical	
Interior Design	X	Environmental AV/Comm/Data/IT		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: (1 BZN/ 1 GF)		

SPECIALTY/OTHER:	Acoustics	
	Commissioning	
	Construction Management	
	Geotechnical/Materials Testing	
	Haz Materials Testing/Mitigation	

LANDSCAPE ARCH:	General Practice	
	Master Planning	
	Environmental	

2. FORM 115 STATEMENT OF QUALIFICATIONS

LIST THE FIRM NAME AND ADDRESS FOR EACH OF THE CONSULTANTS ON THIS PROJECT (if different from PRIME above).

ARCHITECT FIRM INFORMATION					
Firm Name:		ED2 International	Contact(s)	Name	Email Address
Address: (provide mailing address also, if different)		1426 Fillmore Street, Suite #302 San Francisco, California 94115		Principal: Project Mgr: Project A/E:	pwong@ed2intl.com kyoung@ed2intl.com
Phone #: Fax #:		(415) 575-2510 (415) 474-9110			

MECHANICAL ENGINEER FIRM INFORMATION

Firm Name:		West Plains Engineering, Inc.		Contact(s) Principal: Project Mgr: Project A/E:	Name Marty Christensen, P.E. Marty Christensen, P.E. Michael Heinrich, P.E.	Email Address marty.christensen@westplainsengineering.com michael.heinrich@westplainsengineering.com
Address: (provide mailing address also, if different)		4609 South Techlink Circle Sioux Falls, SD 57106				
Phone #: Fax #:		(605) 362-3753 (605) 362-3759				

ELECTRICAL ENGINEER FIRM INFORMATION

Firm Name:	West Plains Engineering, Inc.		Contact(s) Principal: Project Mgr: Project A/E:	Name Todd Weidner, P.E. Daren Beckloff, P.E.	Email Address todd.weidner@westplainsengineering.com daren.beckloff@westplainsengineering.com
Address: (provide mailing address also, if different)	4609 South Techlink Circle Sioux Falls, SD 57106				
Phone #: Fax #:	(605) 362-3753 (605) 362-3759				

STRUCTURAL ENGINEER FIRM INFORMATION

STRUCTURAL ENGINEER FIRM INFORMATION					
Firm Name:	KPFF Consulting Engineers	Contact(s)	Name	Email Address	
Address: (provide mailing address also, if different)	45 Fremont Street, 28 th Floor San Francisco, CA 94105	Principal: Project Mgr: Project A/E:	Blake Dilsworth, SE Mark Tobin, PE, SE	Blake.Dilsworth@kpff.com Mark.Tobin@kpff.com	
Phone #: Fax #:	415-989-1004 N/A				

2. FORM 115 STATEMENT OF QUALIFICATIONS

CIVIL ENGINEER FIRM INFORMATION

Firm Name:	TD&H Engineers	Contact(s)	Name	Email Address
Address: (provide mailing address also, if different)	234 East Babcock Street, Suite 3 Bozeman, MT 59715	Principal: Project Mgr: Project A/E:	Kyle Scarr Kyle Scarr Chris Ward Jeremy Miller Jana Cooper Steve Anderson	kyle.scarr@tdhengineering.com chris.ward@tdhengineering.com jeremy.miller@tdhengineering.com jana.cooper@tdhengineering.com steve.anderson@tdhengineering.com
Phone #: Fax #:	(406) 586-0277 N/A			

SPECIALTY CONSULTING FIRM INFORMATION

Firm Name:	JE Dunn Construction	Contact(s)	Name	Email Address
Address: (provide mailing address also, if different)	1001 Locust St. Kansas City, MO 64106	Principal: Project Mgr: Project A/E:	Eric Danielson, AICP	Eric.danielson@jedunn.com
Phone #: Fax #:	816.292.8572 816.474.8600			

PROVIDE BRIEF RESUMÉ OF KEY PERSONS OF PRIME FIRM 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:	Ron Nemetz Principal NE45 Architecture Principle in Charge 3 Bachelor of Architecture, 1992 Montana, Tennessee	Experience & Qualifications Relevant to This Project: Ron is a registered architect with close to 30 years of architectural and construction experience. He has a strong commercial project background and has spent the last 20 years in the K-12 and higher educational sector. Ron is an expert in building accessibility and building code issues and has assisted many public and private building owners upgrade older, non-compliant facilities to meet current federal, state and local requirements. <ul style="list-style-type: none"> • MSU Northern Stadium and Wellness Center • MSU Fieldhouse Window Replacement • Great Falls High School Addition and Renovation. STEM • Dillon High School Addition and Renovation. STEM • Three Forks School Planning • Sublette Center Skilled Assisted Living Center* • Wyoming Medical Center Addition. Dialysis and Stress lab* *Work done prior to NE45 Architecture	Experience & Qualifications Relevant to This Project: With experience in educational, commercial, and hospitality architectural sectors, from time spent working in San Francisco, Portland and Seattle, Jeff finds himself back home in his native Bozeman. Jeff has been a part of multiple master planning projects. Jeff has primary firm responsibility for project quality control and will lead the team in detailing from beginning to end. He provides the team with superior communication, programming and design development skills. <ul style="list-style-type: none"> • MSU Northern Stadium and Wellness Center • MSU Fieldhouse Window Replacement • MSU Fields Project
Name: Title: Firm Name: Role on This Project: Years w/ This Firm: Education (degree/year): Active Registrations:	Jeff Lusin Principal NE45 Architecture Project Architect 2 Masters of Architecture, 2007 Bachelors of Science, 2006 Montana, Oregon		

2. FORM 115 STATEMENT OF QUALIFICATIONS

			<ul style="list-style-type: none"> Bozeman High School Van Winkle Stadium Project Salem Hospital Out-Patient Center/ Master Planning* <p>*Work done prior to NE45 Architecture</p>
<p>Name: Title: Firm Name: Role on This Project: Years w/ This Firm: Education (degree/year): Active Registrations:</p>	<p>Ben Erickson Principal NE45 Architecture Project Manager 3 Masters of Architecture, 2010 Bachelors of Science, 2009 n/a</p>	<p>Experience & Qualifications Relevant to This Project:</p>	<p>Ben was born and raised in Havre, Montana. He received his Master's in Architecture from Montana State University. As Principal and Owner Ben has a wide range of project experience but most his career has been focused on community design work within education and civic projects. Also, his experience in REVIT, CAD, Sketch-up, Photoshop and other design programs will allow each client to have the most current and up-to-date technology for their project.</p> <ul style="list-style-type: none"> MSU Fields Project MSU Fieldhouse Window Replacement MSU MH Fitness Center Climbing Wall Project MSU Northern Stadium and Wellness Center Great Falls High School Addition and Renovation. STEM Dillon High School Addition and Renovation. STEM Three Forks School Planning

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

<p>Name: Title: Firm Name: Role on This Project: Years w/ This Firm: Education (degree/year): Active Registrations:</p>	<p>Peter W. T. Wong Senior Design Principal ED2 International Principal Laboratory Facilities Planner 42 years Master of Arch. w/Distinction/1973 Bachelor of Arts, Environmental Design/1971 Registered Architect: CA (C-10636) Member, Asian-American Architects & Engineers Member, Construction Specifications Institute Member, Green Roofs for Healthy Cities Member, International Institute for Sustainable Labs</p>	<p>Experience & Qualifications Relevant to This Project:</p>	<p>Veterinary Planning, Hospitals & Diagnostic Labs Mr. Wong's interest and commitment in state-of-the-art animal care projects include 36 of 61 USDA-NAHLN accredited Vet. Diagnostic Labs and 23 of 28 AVMA Accredited Colleges of Vet. Medicine - Most veterinary designs by any firm in the U.S. Peter has programmed and designed 11 VDLs in the "Silicon Prairie" or in America's heartland and has collaborated with local firms of record on seven of those projects:</p> <ul style="list-style-type: none"> Iowa State University - VDL Lab Renovations, Ames, IA (In/Vision, Des Moines) ISU VDL - Needs Assessment Report, Ames, IA ISU New Stand-Alone VDL Master Plan, Ames, IA KSVDL, Kansas State University CVM, Manhattan, KS (Treanor HL Architects, Lawrence) Michigan State DCPAH (Largest VDL Lab in U.S. - 158,000 SF) Lansing, MI (HED, Southfield) Montana State Marsh Lab Assessment, Bozeman South Dakota State Univ. - ADRDL and ARW, Brookings, SD (HAI Architects, Sioux Falls) South Dakota State Univ. - New ADRDL Lab, Brookings, SD (CEP - Lincoln, NE) University of Minnesota - UMN-VDL, St. Paul, MN (Lindberg / Pierce Architects, St. Paul) University of Nebraska VDC - Lincoln, NE University of Wisconsin WDDL Peer Review, Madison, WI (Stramg Architects, Madison) University of Wyoming WSVL Alts. & Expansion, Laramie, WY (HDR, Denver)
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	<ul style="list-style-type: none"> • <i>Member</i>, International Living Future Institute • <i>Member</i>, Society of College & University Planning 		<p>Mr. Wong has helped in the cost planning of the Bio-containment upgrades for the 3 Pennsylvania (PADLS) Labs and with Washington State at Pullman, WA:</p> <ul style="list-style-type: none"> • Pennsylvania Diagnostic Lab (PVL) Harrisburg, PA • Animal Diagnostic Lab (ADL) Penn State University - University Park, PA • New Bolton Center (NBC) at Kennett Square, Philadelphia, PA <p>Mr. Wong's 11 VDL projects for the South Region Education Board, SREB schools include:</p> <ul style="list-style-type: none"> • Louisiana Disease Diagnostic Lab (LADDL), LSU, Baton Rouge, LA (Tipton Architects) • Mississippi State's 7 MVRDLS lab assessment & the Wise Center Master Plan, Starkville, MS • New MVRDL Central Reference Lab at Pearl, MS (FoilWyatt Architects) & the current renovations/ addition at the Wise Center VDL at Starkville, MS (Pryor+Morrow Architects)
<p>Name: Title: Firm Name: Role on This Project: Years w/ This Firm: Education (degree/year): Active Registrations:</p>	<p>Kenneth Young Senior Project Manager/Architect ED2 International Project Architect 40 years Bachelor of Arts, Architecture/1977 Registered Architect: CA (C-20446)</p>	<p>Experience & Qualifications Relevant to This Project:</p>	<p>With over 39 years of experience with ED2 International, Mr. Young is a Senior Project Architect and Facilities Planner with the firm. Mr. Young has established a working knowledge of every phase of the planning, programming, design and construction process.</p> <p>Within ED2's organization, Mr. Young's expertise is primarily in the project planning, management, design, construction documentation and construction administration of complex publicly bid institutional, governmental and university facilities.</p> <p>Ken has worked extensively in coordination and formulation of technical systems and construction documentation for various academic, research and instructional laboratory, health care, veterinary facilities planning/design and residential facilities.</p> <p>Relevant Project Experience</p> <ul style="list-style-type: none"> • ARS / United States Department of Agriculture San Joaquin Valley Agricultural Sciences Center, Parlier, CA (18-Building Research Campus) • Center for Comparative Medicine – UC, Davis • New Laboratory Building & Vivarium Wing • Dept. of Public Health Laboratory Building Assessment Study, Berkeley, CA • EBMUD Water & Wastewater Office, Lab & Vivarium Additions & Alterations, Oakland, CA • ISU CVM Lloyd VMC Ph. 1 – LAH & VDL & Ph. 2 Hixson-Lied SAH & Ph. 3 WCC, Ames, IA • John E. Thurman Central Reference Lab, UC, Davis • Kearney Agricultural, Research & Education Center, Parlier, CA (Lab & Berlese Insect Rearing Facility) • Kansas State Large Animal Research Center, Manhattan, KS • Lawrence Hall of Science Alts. – UC, Berkeley • LSU SVM Comprehensive Facilities Master Plan & DLAM Vivarium Facilities & VTH Improvements - Louisiana State University, Baton Rouge, LA • Natural Sciences Laboratory Alterations (4 Existing Science Buildings & Rooftop Vivarium) • University of California, Santa Cruz • Primate Quarantine Facility – UC, Davis • California Regional Primate Research Center • School of Medicine Research Building. III • U.C. Davis Medical Center - Sacramento, CA (Lab & Underground Vivaria) • SF Zoo & Gardens – San Francisco, CA

Form 115

Statement of Qualifications for Specific Projects (Rev 12/17)

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2. FORM 115 STATEMENT OF QUALIFICATIONS

<p>Name: Title: Firm Name: Role on This Project: Years w/ This Firm: Education (degree/year): Active Registrations:</p>			<ul style="list-style-type: none"> - Sifaka Exhibit & Gorilla Pneumatic Gate Retrofits - South American Rainforest Aviary Exhibition Building - SFWD Water Quality Lab., Millbrae, CA - Sinsheimer Cell & Molecular Biology Lab - University of California, Santa Cruz - Solano College New Biotechnology & STEM Science Bldg. - Vacaville, CA - South Dakota State ADDRDL Lab, Brookings, SD - Toxic Pollutant Health Research Lab (BSL-4), UC, Davis - Vet. Med. II Addition & Renovations, UC Davis, CA
<p>Name: Title: Firm Name: Role on This Project: Years w/ This Firm: Education (degree/year): Active Registrations:</p>	<p>Blake Dilsworth, SE Principal KPFF Consulting Engineers Principal-in-Charge 25 years B.S., Civil Engineering, Michigan State University, 1984 Registered Structural Engineer: CA #S3929 Registered Civil Engineer: CA #C48221 Registered Professional Engineer: MI, MD, DC, MN, KS, IN, NY</p>	<p>Experience & Qualifications Relevant to This Project:</p>	<p>Blake Dilsworth leads the design and management of many of KPFF's highest profile projects, including dozens of Design/Build and Integrated Project Delivery (IPD) projects. His thorough understanding of the complexities working with large, diverse teams guides his development of suitable structural systems. Blake's solutions balance the project's functional and aesthetic requirements with the fundamental structural demands, understanding that success must be all-inclusive. Blake's diverse, award-winning portfolio ranges from medium-rise concrete and steel structures to low-rise wood and masonry structures for private developers and public agencies of nearly all project types.</p>
<p>Name: Title: Firm Name: Role on This Project: Years w/ This Firm: Education (degree/year): Active Registrations:</p>	<p>Kyle Scarr, PE Regional Manager, Principal TD&H Engineering Lead Geotechnical Engineer/ Civil Project Manager 12 Master of Science, Civil Engineering, Geotechnical, 2008 Montana State University Montana, 16813PE Idaho, 15031PE</p>	<p>Experience & Qualifications Relevant to This Project:</p>	<p>Kyle Scarr is the TD&H Bozeman Regional Manager and a geotechnical/civil engineer who specializes in foundation investigations, slope stability, and civil engineering design. Kyle is currently on the design team for Bozeman's Second High School and has a long-standing relationship with the Bozeman School District. Select project experience includes Meadowlark and Hyalite Elementary Schools and Chief Joseph Middle School. Kyle has extensive knowledge of the MSU Bozeman campus, with a track record of recent successful projects completed for MSU, such as Yellowstone and Gallatin Halls, Miller Dining Hall, South Fieldhouse Parking Lot Improvements, Harrison Street Improvements, and MSU's irrigation reservoir expansion.</p>
<p>Name: Title: Firm Name: Role on This Project: Years w/ This Firm: Education (degree/year):</p>	<p>Chris Ward, PE Senior Transportation Engineer, Principal TD&H Engineering Lead Design Engineer 16</p>	<p>Experience & Qualifications Relevant to This Project:</p>	<p>Chris has been accumulating road design experience in all phases of highway and urban street design as the lead Transportation Engineer at TD&H since 2001. His experience includes track and sports fields, route location, horizontal and vertical alignment design, automation of cross section and earthwork design using GEOPAK, guardrail and safety design, ADA accessibility, and surfacing design. Chris served as project manager for the Memorial Stadium Renovations project in Great Falls.</p>

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Active Registrations:	Bachelor of Science, Civil Engineering, 1996 Montana State University Montana, 12613PE		
Name: Title: Firm Name: Role on This Project: Years w/ This Firm: Education (degree/year): Active Registrations:	Jeremy Miller, PE Geotechnical Engineer TD&H Engineering 3 Master of Science, Civil Engineering, Geotechnical, 2013 Montana State University Montana, 49488PE	Experience & Qualifications Relevant to This Project:	Jeremy performs geotechnical subsurface investigations, retaining wall design, bearing capacity, settlement analysis, site civil design, roadway design, and construction inspections. He performed geotechnical and civil design for the Memorial Stadium Renovations (Great Falls) and is currently performing construction management and inspections for the project. Additionally, he provided geotechnical and limited site civil services for the CMR HS New Buildings and Track (Great Falls).
Name: Title: Firm Name: Role on This Project: Years w/ This Firm: Education (degree/year): Active Registrations:	Steve Anderson, PLS Professional Land Surveyor TD&H Engineering 20 Land Surveying Technician, 1988 Montana, 11251LS	Experience & Qualifications Relevant to This Project:	Steve is TD&H Bozeman's lead Professional Land Surveyor who has 28 years of surveying and project management experience. Steve has provided surveying services to MSU for various residence halls including Yellowstone Hall, Harrison Street reconstruction, and MSU's irrigation reservoir. He served the Bozeman School District as lead surveyor for Meadowlark Elementary and Chief Joseph Middle School. Steve's 20+ years of local experience in boundary, topographic, construction, and engineering surveys has provided him a thorough knowledge in records research and surveying services.
Name: Title: Firm Name: Role on This Project: Years w/ This Firm: Education (degree/year): Active Registrations:	Marty Christensen, P.E. Principal Mechanical Engineer West Plains Engineering, Inc. 23 BS Mechanical Engineering/1994 SD, IA, NE	Experience & Qualifications Relevant to This Project:	Mr. Christensen has served as the Project Mechanical Engineer and/or Project Manager on more than a dozen agricultural and animal science laboratories in this region. He has supported Iowa State University, the University of Nebraska-Lincoln and South Dakota State University on various diagnostic labs, isolation, necropsy, surgery, animal holding and testing spaces; as well as research and vivarium facilities. He is currently the PM for the \$60M Animal Disease & Research Diagnostic Laboratory at South Dakota State University.
Name: Title: Firm Name: Role on This Project: Years w/ This Firm: Education (degree/year): Active Registrations:	Michael Heinrich, P.E. Senior Mechanical Engineer West Plains Engineering, Inc. 17 BS Mechanical Engineering/1999 MT, WY, SD, ND, NE, UT, OH, VA	Experience & Qualifications Relevant to This Project:	Mr. Heinrich has worked with postsecondary institutions and state government entities on research laboratories. He is well versed in the sophisticated ventilation systems and specialized plumbing design required to meet their specific needs and rigid standards. Mr. Heinrich is also a certified Building Energy Modeling Professional (BEMP), which identifies his focus on ensuring energy-efficient outcomes in building construction.

Form 115

Statement of Qualifications for Specific Projects (Rev 12/17)

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2. FORM 115 STATEMENT OF QUALIFICATIONS

Name: Title: Firm Name: Role on This Project: Years w/ This Firm: Education (degree/year): Active Registrations:	Experience & Qualifications Relevant to This Project: Todd Weidner, P.E., RCDD, CESC Principal Electrical Engineer West Plains Engineering, Inc. Project Electrical Engineer 16 BS Electrical Engineering/1988 WY, SD, IA, IL, MO, CO, OH, MN, TN	Mr. Weidner has served as Project Electrical Engineer and/or Project Manager on more than a dozen agricultural and animal science laboratories in this region. In partnership with Mr. Christensen, he has supported Iowa State University, the University of Nebraska-Lincoln and South Dakota State University on various diagnostic labs, isolation, necropsy, surgery, animal holding and testing spaces, as well as research and vivarium facilities. He is currently the Electrical Engineer of Record for the \$60M Animal Disease & Research Diagnostic Laboratory at South Dakota State University.
Name: Title: Firm Name: Role on This Project: Years w/ This Firm: Education (degree/year): Active Registrations:	Experience & Qualifications Relevant to This Project: Daren Beckloff, P.E. Senior Electrical Engineer West Plains Engineering, Inc. Project Electrical Engineer 11 BS Architectural Engineering/1991 MT, WY, SD, CO, ND, NE, AZ	Mr. Beckloff has been a consulting engineer for more than 20 years. Over the past decade, his focus has been on the design of power distribution, emergency power systems, lighting, signal, fire alarm and SCADA systems. He has experience in various types of system planning software, including ETAP, SKIM and PLS-CADD.
Name: Title: Firm Name: Role on This Project: Years w/ This Firm: Education (degree/year): Active Registrations:	Experience & Qualifications Relevant to This Project: Eric Danielson, AICP Director of Science & Technology JE Dunn Construction Cost Planner 5 B.S. Environmental Science American Institute of Certified Planners	South Dakota State University ADRDL – Cost Planner State of North Carolina Ag Sciences Center – Preconstruction Director Consolidation of five state laboratories into a new, modern, facility including BSL-3 veterinary diagnostic lab, metrology, food & drug, motor fuels, and structural pest control & pesticides Kansas State Veterinary Diagnostic Lab – Master Planner Master plan for a new veterinary diagnostic lab on the campus of Kansas State University including BSL-3 lab, necropsy, carcass disposal, and modernized lab sections for pathology, microbiology, histopathology, and molecular biology. University of Missouri Plant Science Center – Master Planner A new plant science facility for the University of Missouri. Included plant pathology labs, growth chambers, and a soy protein extraction process lab.

PROJECTS BY PRIME FIRM THAT BEST ILLUSTRATE QUALIFICATIONS RELEVANT TO THIS PROJECT (limit of 5 projects)

Project Name & Location:	Brief Project Description:	GSF, Cost/SF, & Year Completed:	Owner Contact Info:
Great Falls High School Addition/ STEM, MEP Upgrades and Renovations – Great Falls, MT	In October of 2016, the voters of Great Falls passed a \$98.86 million-dollar bond issue for Great Falls Public Schools to upgrade infrastructure and add educational learning spaces at the elementary and high school districts. Of this total amount, the District's <i>Facilities Action Plan</i> earmarked approximately \$37.33 million dollars for the necessary improvements to Great Falls High School. Approximately \$20.76 Million dollars will be used for upgrades to the Main Campus, which includes upgrades to the mechanical, electrical and plumbing	New "HUB"-68,000 GSF \$205/SF Renovated Interiors-40,000 GSF \$50/SF MEP Upgrades – 178,000 GSF \$80/SF 2020	Great Falls Public Schools Brian Patrick, Director of Business Operations 1100 4th St S. Great Falls, MT 406-268-6010

2. FORM 115 STATEMENT OF QUALIFICATIONS

<p>Beaverhead County High School Improvements – Dillon, MT</p>	<p>systems; classroom remodels; technology upgrades; and improvements to campus parking.</p> <p>The remaining \$16.5 million dollars will be spent on a new building addition (the HUB) to connect the existing Main Campus to the existing South Campus building. The HUB addition will increase campus safety, address the building entries; add needed STEM and CTE educational spaces; improve the kitchen and dining facilities; and provide a central learning and gathering space for the students.</p> <ul style="list-style-type: none"> • Provide a safe & secure facility for the students, staff and community (during construction and throughout the regular school year) • Provide future-ready learning environments that support the educational program of Great Falls High School • Honor and be sensitive to historic character of the main school building and overall campus • Provide clear and obvious building and vehicular entry points, and additional parking to help alleviate overcrowding in the surrounding neighborhood 		
	<p>NE45 Architecture was recently selected for updating all three buildings for Beaverhead County High School located in Dillon, MT. The project will need to meet codes, safety concerns, space constraints and improve the aging structures. These improvements will enhance the needs of the students, teachers and community.</p> <p>The design for the Main Historic Building (1938) will add an accessible entrance to the front of the building, upgrade bathrooms, add a main level student commons and teacher work rooms, abandon the non-conforming partial basement and reorganize the administrative spaces/ classrooms.</p> <p>B.W. Lodge gymnasium will add a new structure to its east side including a new music facility, a multipurpose cardio/ wrestling room and a weight room. Within the existing footprint of the building, guest locker rooms, updated rest room facilities and other associated storage reorganization will be done.</p> <p>The existing Vo-Ag and wood shop will be replaced with a new facility, in addition to a connected science facility for all science classes that will share new technology, mechanical ventilation systems and a greenhouse to enhance the science and Vo-Ag programs.</p> <p>Other additions to the complex include parking lots, sidewalks and a safe cross walk at Atlantic Street as well as other associated landscape features.</p>	<p>60,000 GSF \$283/SF No completion date set</p>	<p>Gary Haverfield, Dillon Superintendent 104 North Pacific Street Dillon, MT 59725 406.683.2361</p>

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Statement of Qualifications for Specific Projects (Rev 12/17)

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2. FORM 115 STATEMENT OF QUALIFICATIONS

Three Forks Public School Improvements and Planning – Three Forks, MT	<p>The Three Forks Schools identified a goal to explore the potential for additions, renovations and upgrades to the existing building and building systems to more effectively meet the needs of Three Forks Elementary, Middle and High Schools, and the Three Forks School District Administration. The existing building is a 118,000 square foot K-12 facility, which is also the home to the School District Offices.</p> <p>Through these detailed investigations it was discovered that the facility was undersized compared to size standards established by other K-12 facilities across the state of Montana, with a space deficit of approximately 47,000 square feet. NE45 will assist the district with passing a bond in the spring of 2018 after the Preliminary Architectural Report is finished.</p>	<p>New – 34,000 GSF \$220/SF Renovated – 14,000 GSF \$50/SF 2020</p>	<p>Gary Haverfield, Dillon Superintendent 104 North Pacific Street Dillon, MT 59725 406.683.2361</p>
Havre High School Renovation and Upgrades – Havre, MT	<p>Havre High School, located in northern Montana, serves 558 students accommodating 9th through 12th grade. This Preliminary Architectural Report (PAR) is intended to aid in the identification of the most feasible and cost effective solution for the development of Havre High School (HHS) to handle the upgrades and specific needs of the existing school. The study analyzes the handicapped accessibility of the toilets, the indoor air quality of the school, the utilization of existing science classroom and lab spaces, and the ability of the science classrooms and science labs to adequately serve the students of Havre High School. The PAR evaluates several options in which Havre High School can accomplish the building upgrades and needs of the District. A building condition assessment of the existing High School facility was conducted to determine necessary upgrades to the existing building and building systems for functionality and accessibility.</p> <p>This report documents key components of the Preliminary Architectural Report, and represents a compilation of data, information and insight from a multitude of sources. The assessment and PAR was conducted with meetings between Havre Public School District administration, HHS administration and staff, and the NE45 Architecture team over a period of approximately three months.</p> <p>The anticipated project construction is not yet scheduled for as the funding is still being procured. Anticipated construction start in spring of 2018.</p>	<p>9,000 GSF \$150/SF No completion date set</p>	<p>Andy Carlson, Superintendent Havre Public School District PO Box 7791 Havre, MT 59501 carlsona@blueponyk12.com 406.265.8460</p>
Roosevelt High School – Casper, WY	<p>This New Campus will be designed to accommodate both a new facility for the school district's alternative high school of choice, Roosevelt High School (RHS), and the new Pathways Innovation Center (P.I.C.), which will serve students from all 3 existing high schools in the district. Roosevelt High School is an Alternative High School in the Natrona County School District and it has a current enrollment of 160, limited by the existing facility</p>	<p>133,315 GSF \$353/SF 2015</p>	<p>Natrona County School District #1 Dennis Bay, Executive Director Business Services 970 N. Glenn Road Casper, WY 82601 307-253-5200</p>

2. FORM 115 STATEMENT OF QUALIFICATIONS

	that was originally designed as an Elementary School in the early 1900s. With a new facility the school is expected to grow to 300 students and approximately 30 teaching staff in a highly personalized, non-traditional project-based learning experience. The Teton County Library is an active community center focused on lifetime learning offering access to information, literature and ideas. *Work done while with MOA Architecture as a Principal and Project Manager as well as designed in collaboration with Cunningham Group Architects.		
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PROJECTS BY PRIMARY CONSULTANT(S) THAT BEST ILLUSTRATE QUALIFICATIONS RELEVANT TO THIS PROJECT (limit of 3 projects/firm)

Project Name & Location:	Brief Project Description:	GSF, Cost/SF, & Year Completed:	Owner Contact Info:
DIAGNOSTIC CENTER FOR POPULATION ANIMAL HEALTH Michigan State University, Lansing, MI	This is a 15,000 square foot pharmaceutical laboratories and animal vivarium renovation project which included a separate clean and dirty cage wash and sterilization facility, feed and bedding storage, staff change room facilities, small / medium / large animal holding rooms, ante rooms, separate clean and dirty corridors, procedure rooms and animal surgery facilities. The animal room included six separate cubicles in the same room for different research requirements. Life safety issues included revised exiting through fire-rated corridors. Computerized building automation / energy management system utilizes Johnson Controls with DDC, Direct Digital Controls and a VAV, Variable Air Volume system that is central control and locally monitored. Flexible modular labs allow for future changes and lab support areas were added for state-of-the-art instrumentation and separation and containment of vibration-sensitive, noisy and heat generating equipment, increase storage capacity and proper hazardous material handling.	SQUARE FOOTAGE 152,000 SF COST/SF \$ 284/sf STATUS Completed 2004	Harley Ellis Devereaux (Local, Prime Architect of Record) Michael Proctor, AIA, Principal-in-Charge (248) 262-1538
MVRDL CENTRAL REFERENCE LABORATORY Mississippi State University, Pearl, MS	For 30 years, the Mississippi Veterinary Research and Diagnostic Laboratory System operating in partnership with the State Department of Agriculture served as the backbone of Mississippi's early warning system to safeguard public health and protect the health of the state's livestock, catfish, poultry and companion animal population. Through rapid and reliable diagnosis of diseases common to animal and humans, the network of veterinary diagnostic laboratories constituting the MVRDLs. ED2 International provided physical assessment of all facilities and was the lab planner, facility programmer	SQUARE FOOTAGE 45,000 SF COST/SF \$ 444/sf STATUS Completed 2006	Mississippi Veterinary Research and Diagnostic Laboratory System Dr. Lanny W. Pace, DVM, PhD, ACVP Executive Director (601) 420-4700

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2. FORM 115 STATEMENT OF QUALIFICATIONS

	and design consultant for this new central reference laboratory working with Foil Wyatt Architects as the local firm of record. This new 45,000 SF state funded full-service central reference MVRDL at Pearl, MS will replace and consolidate the outdated laboratories at Rankin County and Jackson with an accredited state-of-the-art facility by the American Association of Veterinary Laboratory Diagnosticians (AAVLD). And the remaining two diagnostic programs in Stoneville Catfish laboratory in the Delta and MSU-CVM, Starkville will be retained and will continue to complement the new MVRDL central reference laboratory to form an overall network of branch laboratories to form the MVRDL System. Transport stations at Oxford and Biloxi are planned to provide adequate service capabilities for the state in the near future.		
LOUISIANA ANIMAL DISEASE DIAGNOSTIC LABORATORY Louisiana State University, Baton Rouge, LA	Architectural services for new 57,000-ft, \$22 million facility featuring Administration, Aquatic Diagnostics, Bacteriology-Virology, Parasitology-Clinical Pathology, Pathology, Serology and Toxicology diagnostics/laboratory and support facilities, featuring 24 fume hoods, 26 biological safety cabinets and 8 backdraft workstations. All laboratories operate at biosafety Level 2 environments, and the facility includes the only biosafety Level 3 lab in the entire Veterinary Medicine Complex. LADDL is one of 44 AAVLD accredited facilities in North America. Project features a 400 KW generator and a 4.16 kVA UPS system in a loop configuration to ensure power to mission critical labs and equipment throughout the facility. The Louisiana Animal Disease Diagnostic Laboratory (LADDL) is a full-service AAVLD-accredited laboratory. Housed in the Louisiana State University's School of Veterinary Medicine, the LADDL services the people of Louisiana and surrounding states by providing animal disease diagnostic services to agricultural and general communities in the state of Louisiana.	SQUARE FOOTAGE 56,000 SF COST/SF \$ 393/sf STATUS Completed 2006	Tipton Architects (Architect of Record) Kenneth Tipton, Jr., AIA Managing Principal (225) 387-0101 x11 kktiption@tipton-associates.com

ADDITIONAL RELEVANT INFORMATION (additional attachments, firm information, photos, and/or personnel resumes are acceptable)

See attached information

2. FORM 115 STATEMENT OF QUALIFICATIONS

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

Ron M. Nemetz

NAME

SIGNATURE



Principal

TITLE

02-13-18

DATE

The state of Montana makes reasonable accommodations for any known disability that may interfere with an applicant's ability to compete in the application and selection process or that may interfere with an applicant's ability to perform the essential duties of the job. In order for the state to make such accommodations, applicants must make known any needed accommodation to the individual project managers or agency contacts listed. Persons using TDD may call the Montana Relay Service at 1-800-253-4091.

Form is available at <http://architecture.mt.gov/>.

If you experience problems with this form, please contact the A&E Division at AEDivision@mt.gov or (406) 444-3104.

3. TEAM INFORMATION

SECTION

3



Principals :

Ron Nemetz Jeff Lusin
Ben Erickson

Contact :

Ron Nemetz , AIA

Bozeman Office:
1216 W. Lincoln St., Suite D
Bozeman, MT 59715

Great Falls Office:
1325 8th Ave. N., Suite 102
Great Falls, MT 59401

Livingston Office:
322 W. Calender St.
Livingston, MT 59047

Mail Address:
1627 W. Main St., #325
Bozeman, MT 59715

Ph: 406.577.2345
C: 406.599.6213
Email: rnemetz@ne45arch.com
Website: www.ne45arch.com

Types of Service :

Full Service Architecture, Interiors & Planning:

Higher Education	Community
Government	Renovations
K-12 Education	Non-Profit
Library	Mixed-Use
Master Planning	Institutional
Medical	Housing
Hospitality	Commercial
Retail	Recreation

Firm Composition :

Total Staff:	9
Architectural/Interiors	9
Administrative:	1
Registered Architects	2
LEED Accredited Professionals	3

Architectural Registrations:

Montana, Wyoming, Oregon, Tennessee,
Hawaii

NE45 Architecture, LLC

Architectural (Prime)

NE45 Architecture: Providing Local Knowledge and Collaboration

NE45 Architecture puts a strong emphasis on educational projects including libraries, K-12 schools, Higher Education, community and cultural centers, and multi-service facilities that bring a wide range of government services into one efficient structure. Our experience gives us a unique understanding of how to work effectively with diverse user groups to develop strong architectural solutions that truly reflect the client and community they serve. NE45 combines the intimacy and one-on-one mentoring environment as a small practice but with the extensive knowledge of a major design firm. Our goal is to always give each project the time and attention it needs to be successful and achieve the needs our client. Our reputation is based on the personal relationships we develop with our clients, and we carefully and constantly monitor our workload throughout our firm to make sure we have the time to develop these strong partnerships and to do our work to the best of our abilities.

Our design approach is based on a very interactive process between all team members. This allows each member the opportunity to contribute their ideas, expertise, and technical knowledge, ultimately creating projects that are uniquely tailored to fit the needs and desires of our clients.

Our current staff of 9, includes 2 licensed architects supported by 7 design and technical staff, 3 of which are LEED accredited professionals.

We believe that design has the power to positively transform people and the planet. Research-focused and inventive, every day we reimagine how space can be used to foster stronger ties between communities, the built environment, and nature. Our transformative designs help students learn better, patients heal faster, business teams perform stronger, and city dwellers have more meaningful daily experiences.

Diverse Stakeholders

We have developed several facilities that combined agencies or programs historically operating autonomously; such as multi-use space with classrooms. The net result was a synergy of operation and economy of space never before realized by the users.

Public Agency Experience

Our experience gives us a unique understanding of how to work effectively with diverse user groups to develop strong architectural solutions that truly reflect the client and community they serve.

Much of our work involves renovation and re-purposing of existing buildings/classrooms, including local and nationally registered historic structures. We place great value on the heritage of venerable buildings, capitalizing on the timeless qualities of a solid structure. This can be the direct conversion of an historic building to create new, flexible, modern space, or by recycling of vintage structural members from local buildings slated for demolition into new structures.

3. TEAM INFORMATION



Ron M. Nemetz, AIA, NCARB

Principal in Charge
NE45 Architecture, LLC



Education

- Bachelor of Architecture,
University of Tennessee

Affiliations / Registrations:

- Registered Architect in Montana
- American Institute of Architects
- Livingston Historical Commissioner
- NCARB
- Nicolaysen Art Museum; Vice Chair

With over 29 years of experience in architecture and construction, Ron has been working exclusively in the industry since the early 1980's. Ron knew early-on that he was going to be an architect, and has focused a majority of his professional time and efforts in the education and community sectors. Along with this vast experience, Ron's proven leadership skills and team-oriented approach to architecture and design have made him a valuable team member on over 500 building projects.

As a Principal and Owner of NE45 Architecture, Ron excels at client interaction and communication, and his personality is an asset when it comes to conflict and/or dispute resolution. Ron began his career in the construction industry prior to becoming a registered architect in 1994. This experience provides him a very strong technical background in the materials and methods of construction, and also promotes efficient coordination of Architectural, Engineering and Construction professionals.



Jeff D. Lusin, AIA, LEED AP BD+C

Principal/ Project Architect
NE45 Architecture, LLC



Education

- Masters of Architecture,
Magna Cum Laude
Montana State University
- Bachelors of Science,
Magna Cum Laude
Washington State University

As a Principal, Jeff collaborates with his fellow partners to provide effective and meaningful service to every client while striving to positively impact the surrounding community. With experience in residential, commercial, hospitality, healthcare and educational architectural sectors, from time spent working in San Francisco, Portland and Seattle, Jeff finds himself back home in his native Bozeman. He is a champion for mentorship and continued education as he believes they are key components to cultivating design. Enhancing his own professional journey, Jeff finds time to engage in the local community.



Ben C. Erickson, LEED GA

Principal/ Project Manager
NE45 Architecture, LLC



Education:

- Masters of Architecture,
Montana State University
- Bachelor of Environmental Design
Montana State University

Ben was born and raised in Havre, Montana. He received his Masters in Architecture from Montana State University. He is an extremely energetic, enthusiastic, passionate and dependable person. He has brought these traits to every project that he has been involved with over the years and Ben not only listens to client's wants and needs, but actually hears what they are saying. This ability to use his professional expertise to translate an owner's idea to paper is one of his strong points, and his artistic eye, attention to detail, and amazing people skills strengthens his value for a project.

Ben has a wide range of project experience but a majority of his career has been focused on educational and community design work. As an Owner and Principal of NE45 Architecture, Ben works closely with clients, consultants and contractors to create a "teamwork" approach which is the secret behind every great project. Also his experience in REVIT, CAD, Sketch-up, Photoshop and other design programs will allow each and every client to have the most current and up-to-date technology for their project.

3. TEAM INFORMATION



Principals :
Peter W.T. Wong

Contact :
Peter W.T. Wong

1426 Fillmore Street, Suite #302
San Francisco, California 94115

Ph: (415) 575-2510
Fax: (415) 474-9110
Email: pwong@ed2intl.com
Website: www.ed2intl.com

Architectural Registrations:

Registered Architect: CA (C-10636)
Member, Asian-American Architects & Engineers
Member, Construction Specifications Institute
Member, Green Roofs for Healthy Cities
Member, International Institute for Sustainable Labs
• Member, International Living Future Institute
• Member, Society of College & University Planning

ED2 International

Architectural (Associate)

ED2 International is an established architectural, planning and interior design practice headquartered in San Francisco, CA. Incorporated in 1976, the firm is comprised of architects and designers in the complementary fields of Environmental design and Economic Development. The dynamic combination of these disciplines provides the basis of our firm's philosophy and name, ED2.

ED2 offers comprehensive services that encompass the basic areas of planning, programming, architectural design, space planning and interior design. As our practice has developed and broadened, our work has become both national and international in scope, ED2 has contributed to the built environments of many regions of the United States and of other countries.

Professional Services Offered to Clients

The following is a list of the professional services provided by ED2's in-house staff. Services required for the project and not included in the list below will require the use of an expert consultant.

250+ Modular, Flexible, Safe & Functional Labs
(15 of the Top 40) National Science Foundation Funded University R&D Centers)



PROJECT MANAGEMENT Quality Assurance Contract Administration Scheduling Coordination & Review Liason with Juristictional Agencies	MASTER PLANNING / SITE SELECTION Site Analysis Planning Reports & Developmental Guidelines Conceptual Design Reports Funding Procurement Community Relations	
ARCHITECTURAL DESIGN Case Studies / Historical Modeling Functional & Organizational Analysis Renderings & Sketches Physical Models	VALUE ENGINEERING Basic & Secondary Functional Analysis First Cost Analysis Life Cycle Cost Analysis Alternative Systems Evaluations	
CONSTRUCTION DOCUMENTATION Systems Drafting Integrated CADD Systems Detail Banks & Specifications Integrated CADD Systems	LABORATORY PLANNING / DESIGN Work Flow Analysis Laboratory Layout & Design Existing Equipment Inventory New Equipment Specifications/Procurement Hazardous Materials Inventory	
CONSTRUCTION ADMINISTRATION Submittal Reviews Occupancy Evaluation Record Drawings / Project Closeout Post Occupancy Evaluation Field Observations Post	INTERIOR DESIGN Space Planning Space Standards Color & Materials Program Arts, Signage & Graphics Program Furniture, Furnishings & Accessories Selection / Procurement	
PROGRAMMING Existing Conditions Assessment Data Collection Interview Workshops Code Compliance Analysis Data Analysis Update	COMPUTER AIDED DRAFTING & DESIGN (CADD) 2D & 3D Simulations Space Management Translation Program Interference Check	
Architecture	Interiors	Planning

3. TEAM INFORMATION



EDUCATION

- **Master of Architecture with Distinction**, 1973
- **Bachelor of Arts, Environmental Design**, 1971
University of California, Berkeley

PROFESSIONAL AFFILIATIONS

- **Registered Architect** - California (C-10636)
- **Member**, Asian-American Architects & Engineers
- **Member**, Construction Specifications Institute
- **Member**, Green Roofs for Healthy Cities
- **Member**, International Institute for Sustainable Labs
- **Member**, International Living Future Institute
- **Member**, Society of College & University Planning

PUBLIC SERVICE

- **Architectural Oral Exam Panelist**, 1991
S.F. Civil Service Commission
- **Design Grading Commissioner**, 1989
State Board of Architectural Examiners

AWARDS & HONORS

- **ASCE Construction Project of the Year** – 09/2014
Oakland BART Connector Stations & Doolittle MS&F
- **American School & University** – August 2013 Issue
Education Interiors Showcase – Outstanding Designs
- Marin Catholic Student Center, Kentfield, CA p.53
- College of Marin – SMNCPC, Kentfield, CA p. 95
- **AIA/CES Interior Architecture Award**, 2009
- **Calif. Construction Magazine BEST 2008 Award**
Higher Education, CCSF Mission Campus, 12-08
- **R&D Magazine, LAB DESIGN**, New Projects,
DCPAH, Reed Business Information Science
Group, Division of Reed Elsevier, Inc., 11/05
- **American School & University**
Outstanding Post-secondary Building Citation,
Tarleton State Planetarium & Center for Astronomy,
Texas A&M University System Stephenville, TX - 2001
- **WCCS Sixth Distinguished Project Award**,
SSU-Schulz Information Ctr. Rohnert Park, CA - 2000
- **Design Award**, First Republic Bank, Menlo Park-98
- **National AIA Certificate of Merit**
Architectural Excellence in Transportation - 1997
SFO BART/Light Rail Stations & Parking Garages
- **First Design Award**, Competition,
DNP Corporate Headquarters, Tokyo, Japan - 1996
- **Museum of the Yr. | MITI 4th Global Environmental Award** – CCGA - Fukushima, Japan - 1995
- **Ministry of International Trade & Industry Award**
Nasu Highland Golf Club, Nasu, Japan - 1994
- **THEA, Theme Entertainment Award**,
Dark Castle, Fantasy Pointe, Nasu, Japan - 1993
- **NCCA Concrete Industry Grand Awards**
- LLNL/ DPF / NTTC Complex - 1990
- Sinsheimer Cell & Molecular Lab - 1989
- **First Design Award**, Golden Bridge Mansions,
Shanghai, Peoples Republic of China – 1987 & 1997
- **ASLA Honor Award**, Kezar Corner Master Plan-1986
- **SFAIA Exhibition-The Art of Working Drawings**-86
- **Speaker, AIA National Convention**, SF, CA - 1985
- **American Registered Architects Award** - 1974
- **National Registered Architects Award** - 1973

Peter W. T. Wong, RA, AAAE, CSI, GRHC, I²SL, ILFI, SCUP
Senior Principal, Architect, Lab & Veterinary Facilities Planner

EXPERIENCE

- **ED2 INTERNATIONAL, Architects & Planners**,
San Francisco, Oakland, CA & Chicago, IL
Sr. Principal for Planning & Design, 1976-Present
- **UNIVERSITY OF CALIFORNIA, Berkeley**
Lecturer, Dept. of Architecture, 1977-1978
- **REID & TARICS ASSOCIATES, SF, CA**
Project Designer/Technical Coordinator, 1975 - 1976
- **DMJM**, Los Angeles & Hawaii
Project Designer/ Planner, 1973 - 1975
- **WARREN C.T. WONG, AIA**, Stockton, CA
Programmer/ Architectural Designer, 1970 - 1973
- **EDWARD CHARLES MERLO, AIA**, Stockton, CA
Designer/ Delineator, 1968 - 1970
- **MCQUIRE, EATOUGH & FONG, AIA**
Sacramento, CA, Draftsman/Intern, Summer 1967

PROFESSION

For the past 40 years, Mr. Wong has been Senior Principal Campus Planner and Facilities Designer for ED2 International. An architect, lab planner with 45+ years of experience, Mr. Wong has directed a number of award-winning projects, that required creativity & comprehensiveness, and as follows:

Campus Planning Projects

Mr. Wong is a nationally regarded expert on sustainable & ecological responsible designs. A Society of College and University Planning member, Mr. Wong has directed planning & design of 100+ college & university projects. A select list includes:

- Calif. State University (SF, San Luis Obispo, Sonoma)
 - Dominican University of California - San Rafael, CA
 - Iowa State University - Ames, IA
 - Kansas State University - Manhattan, KS
 - Louisiana State University - Rouge, LA
 - Michigan State University - East Lansing, MI
 - Mississippi State University - Starkville, MS
 - Montana State University, Bozeman, MT
 - Nippon Veterinary & Life Science Univ.-Tokyo, Japan
 - Obirin University - Tokyo, Japan
 - Pennsylvania State University - University Park, PA
 - South Dakota State University - Brookings, SD
 - Stanford University - Palo Alto, CA
 - Texas A&M University System- Stephenville, TX
 - The University of Chicago, IL
 - University of Calif. (UCB, UCD, UCSF, UCR, UCSC)
 - University of Florida - Gainesville, FL
 - University of Minnesota, St. Paul, MN
 - University of Missouri - Columbia, MO
 - University of Montreal - Quebec, Canada
 - University of Nebraska - Lincoln, NE
 - University of Nevada - Reno, NV
 - University of Pennsylvania - Kennett Square, PA
 - University of Wisconsin - Madison, WI
 - University of Wyoming - Laramie, WY
 - Western University of Health Sciences - Pomona, CA
- His Notable Community Colleges are in California, Florida, Hawaii, Massachusetts, New York and Texas:
- CCSF New Mission Campus, San Francisco, CA
 - Chaminade College Student Housing, Honolulu, HI
 - College of Marin Kentfield & Indian Valley Campuses Kentfield and Novato, CA (MCCCD)
 - Holyoke Community College, Holyoke, MS
 - Mission College, Santa Clara, CA
 - Modesto Jr. College Childcare Center, Modesto, CA
 - North Lake Community College, Irving, TX
 - Solano College Biotech/Science Bldg. Vacaville, CA

CORPORATE RESPONSIBILITIES

At ED2 International, Architects and Planners, Mr. Wong's expertise is primarily in three areas:

- Management of complex & significant projects;
- Master planning of campus land-use, urban design guidelines and sustainable strategies;
- Programming and design of Integrated STEM Labs, Research Centers, Civic, Cultural, Public and Community Service Facilities, Instructional, Research & Veterinary Diagnostic Labs & Hospitals.

Peter has taught architectural design, community design and development at the College of Environmental Design, UC Berkeley, CA. He has been a visiting lecturer/ design critic at the Harvard Graduate School of Design, Cambridge, Massachusetts and the Department of Architecture, California Polytechnic State University, San Luis Obispo, CA. In his 45 year's career, he has been at the forefront of sustainability strategies & ecologically-responsible development formation, advocacies & implementation in 14 western states, 12 mid-west states, 5 southern states & 5 east-coast states, 50 projects in Japan, 35 projects in the Peoples Republic of China, labs in Canada, Europe and new towns in the Middle East.

Veterinary Planning, Hospitals & Diagnostic Labs

Mr. Wong's interest and commitment in state-of-the-art animal care projects include 36 of 61 USDA-NAHLN accredited Vet. Diagnostic Labs and 23 of 28 AVMA Accredited Colleges of Vet. Medicine - Most veterinary designs by any firm in the U.S. Peter has programmed and designed 11 VDLs in the "Silicon Prairie" or in America's heartland and has collaborated with local firms of record on seven of those projects:

- **Iowa State University - VDL Lab Renovations**
Ames, IA (In/Vision, Des Moines)
- **ISU VDL - Needs Assessment Report**, Ames, IA
- **ISU New Stand-Alone VDL Master Plan**, Ames, IA
- **KSVDL**, Kansas State University CVM, Manhattan, KS (Treanor HL Architects, Lawrence)
- **Michigan State DCPAH** (Largest VDL Lab in U.S. - 158,000 SF) Lansing, MI (HED, Southfield)
- **Montana State Marsh Lab Assessment**, Bozeman
- **South Dakota State Univ. - ADDRDL and ARW**
Brookings, SD (HAI Architects, Sioux Falls)
- **South Dakota State Univ. - New ADDRDL Lab**
Brookings, SD (CEP - Lincoln, NE)
- **University of Minnesota - UMN-VDL**, St. Paul, MN (Lindberg / Pierce Architects, St. Paul)
- **University of Nebraska VDC** - Lincoln, NE
- **University of Wisconsin WDDL Peer Review**
Madison, WI (Strang Architects, Madison)
- **University of Wyoming WSVL Alts. & Expansion**
Laramie, WY (HDR, Denver)

Mr. Wong has helped in the cost planning of the Bio-containment upgrades for the 3 Pennsylvania (PADLS) Labs and with Washington State at Pullman, WA:

- **Pennsylvania Diagnostic Lab** (PVL)
Harrisburg, PA
- **Animal Diagnostic Lab** (ADL)
Penn State University - University Park, PA
- **New Bolton Center** (NBC) at Kennett Square, Philadelphia, PA

Mr. Wong's 11 VDL projects for the South Region Education Board, SREB schools include:

3. TEAM INFORMATION

ED2 international

- **Louisiana Disease Diagnostic Lab** (LADDL), LSU, Baton Rouge, LA (Tipton Architects)
- **Mississippi State's 7 MYRDLs lab assessment & the Wise Center Master Plan**, Starkville, MS
- **New MYRDL Central Reference Lab** at Pearl, MS (FoilWyatt Architects) & the current renovations/addition at the Wise Center VDL at Starkville, MS (Pryor+Morrow Architects)

Peter planned, designed and implemented all 11 California diagnostic labs as the architectural prime.

- **John E. Thurman Central Reference Lab** University of California, Davis, CA
- **Maddy Equine Racing Chem. & Toxicology Lab** Detailed Project Program, UC, Davis
- **CVDLS - 4 branch lab Renovations** Fresno, Tulare, Tullock & San Bernardino
- **New Henry J. Voss Plant Pest Diagnostic Center** Sacramento, CA for Calif. Dept. of Food & Ag.
- **New CAHFS VDL DPP** at Tullock and Tulare, CA
- **Western University of Health Sciences CVM Necropsy Suite Lab Program** - Pomona, CA

Peter's select Vet. School master plans and programming efforts outside of the U.S.A. include:

- **Nippon Vet. & Life Science Univ. Master Plan** Tokyo, Japan (Landscape International, Tokyo)
- **Univ. of Montreal Production Food Animal Research Programs** in Ontario, Canada
- **Latvia University of Agriculture New VDL** Program of Requirements (POR) Jelgava, Latvia

Mr. Wong's select acclaimed Vivaria & Veterinary Health Research Centers & Vet. Teaching Hospitals include:

- **A.J. Carlson Animal Resources Center**, The University of Chicago, IL (\$50 Million)
- **Animal Care Master Plan & Graduate Research Ctr.** University of Nevada, Reno (\$17 Million)
- **Blank Park Zoo Hospital Equipment Assessment** Des Moines, Iowa (\$1.5 Million)
- **Busch Garden Zoo Hospital Program Assessment** Tampa Bay Florida (12.5 Million)
- **California Dairy Technology Center** UC Davis VTMR, Tulare, CA (\$20 Million)
- **California National Primate Research Center** Planning Guide (300 Acres), UC Davis, CA
- **Center for Reproduction of Endangered Species** Zoological Society of San Diego (\$16 Million)
- **Fuji Surugawan Equestrian Center Master Plan** Nagaizumi-cho, Japan (\$200 Million)
- **Helen Woodward Animal Center**
- **New Campus Master Plan & RSFVH** Vet. Hospitals Rancho Santa Fe, CA (\$48 Million)
- **Hopkins Marine Lab** - Stanford Univ., Monterey, CA
- **Insect/Arthropod Quarantine Facilities DPP Review** DNR, UC Davis, CA (\$21 Million)
- **ISU-CVM Lloyd VMC Additions & Alts.** - Ames, IA
- Phase 1 Equine/LA Hospital (\$51.05 Million)
- Phase 2 Hixson-Lied SA Hospital (\$46.50 Million)
- Phase 3 Wildlife Care Clinic (\$12.50 Million)
- **Kansas State University - CVM** - Manhattan, KS
- CVM Master Plan & Academic Center (\$303 Million)
- Large Animal Research Center & Beef Cattle Institute
- Coles Hall & Trotter Hall Lab Alterations & Additions
- Mosier Hall VTH & VCS Alterations
- **LSU-SVM Comprehensive Facilities Master Plan** Louisiana State, Baton Rouge, LA (\$200 Million)

Peter W. T. Wong, RA, AAAE, CSI, GRHC, I²SL, ILFI, SCUP Senior Principal, Architect, Lab & Veterinary Facilities Planner

- **MSU-CVM - Wise Center Vet. Hospital Renovations**, Mississippi State Univ., Starkville, MS (\$18 Million)
- **Paul Harter Veterinary Medical Center** SD Zoo New Safari Park, Escondido, CA (\$24 Million)
- **Primate Quarantine Facility**, UC Davis (\$1.5 Million)
- **Research Building III Underground Vivaria** UCDMC - Sacramento, California (\$15.6 Million)
- **South American Tropical Rainforest Aviary** SF Zoo & Gardens - SF, California (\$5.6 Million)
- **University of Minnesota CVM** - St. Paul, MN
- 3rd Floor SA Hospital/Wellness Center (\$2.5 Million)
- 2nd Floor Equine/LA Hospital Alts. (\$6.0 Million)
- **University of Montreal Animal Care Program** Quebec, Canada (\$50 Million)
- **USDA San Joaquin Valley Ag. Sciences Center** Parlier, CA (Insect Rearing Facilities) (\$21 Million)
- **Vet. Med. Unit II Addition** - UCD-SVM (\$2 Million)
- **VMTH (Veterinary Medicine Teaching Hospital)** AVMA Assessment & Upgrade, UC Davis (\$20 Million)
- **Western Univ. of Health Sciences BSL-3 Upgrade** Pomona, California (\$1 Million)
- **Wild Horse Equestrian Center Master Plan** Napa, California (\$75 Million)
- **WHL, Wildlife Hospital of Louisiana** LSU SVM, Baton Rouge, Louisiana (\$12 Million)

Applied Sciences, Math & Engineering Buildings

- Applied Sciences & Mathematics Building Alts. Dept. of Natural Sciences - UCSC, CA
- CalTRANS 23-Bldgs. Headquarters Campus Sacramento, CA
- Engineering Support Facility, Building 74 Lawrence Berkeley National Lab, Berkeley, CA
- Hart Hall Instructional Classroom Program University of California, Davis, CA
- Engineering Unit II VE Peer Review, UC Davis, CA
- Math. Apps. / Computations Bldg., LLNL, CA
- Solano College New Biotechnology. & Science Building - Vacaville, CA
- YDK America Fabrication Complex, Canton, GA

Physics Buildings

- Biochemistry & Biophysics Laboratories School of Medicine, U.C. San Francisco
- E & O Physics Building, LLNL, Livermore, CA
- FTAB, Building 161, LLNL, Livermore, CA
- Magnetic Resonance Science (MRS) Facility The University of Chicago, Chicago, IL
- Physics Bldg. 111 Upgrades, LLNL, Livermore, CA
- Natural Sciences II Physics Lab Upgrades, UCSC
- Ultra-High Vacuum Fabrication Facility - Bldg. 77A, Lawrence Berkeley National Lab, Berkeley, CA
- Westinghouse Linear Accelerator - Sunnyvale, CA

Computer & Information Technology Centers

- Administration Building / Computer Center Obirin University, Tokyo, Japan
- Bank of America Data Centers - Concord & SF, CA
- Citicorp Center Headquarters, SF, CA
- Dai Nippon Printing Headquarters - Tokyo, Japan
- Elihu M. Harris State Office Building, Dept. of General Services, Oakland, CA
- First Republic Bank Headquarters, SF, CA
- Honeywell Corporate Offices, Hayward, CA
- IBM Corporate Offices & Computer Center (Wells Fargo Center), Sacramento, CA
- IBM Marketing/ Training Centers & Usability Labs West & Southwest Regions (14 Western States)

- Jean & Charles Schulz Information Center, Sonoma State University, Rohnert Park, CA
- John E. Moss Federal Office Building, Dept. of General Services, Sacramento, CA
- Hambrecht & Quist Teleconference Center - SF, CA
- Information Technology Center (MCCD) Kentfield & Indian Valley Campuses, Kentfield, CA
- Manufacturers Hanover Trust Headquarters, SF, CA
- Pacific Bell Corporate Headquarters, SF, CA
- Pacific Gas & Electric Learning Center - San Ramon
- Sanpao Group Corporate Headquarters, SF, CA
- SFO Data Center, SFIA, SF, CA
- Wells Fargo Bank Headquarters, SF, CA

Mr. Wong's Post-Secondary & University Science & Engineering Facilities experience includes over 250 projects and the following is a partial listing:

Biology & Chemistry Science Buildings

- ARS / USDA San Joaquin Valley Ag. Sci. Center Parlier (18-Building Research Campus), CA
- Bio-sciences Instructional Center Plan, The University of Chicago, Chicago, IL
- Center for Comparative Medicine, University of California, Davis, CA
- College of Marin Science/Math/Nursing/Central, Plant Complex, Kentfield, CA
- E.D. Stone Laboratory Alterations (5 Buildings) Stanford University, Palo Alto, CA
- Human Genome Laboratory Ernest Orlando Lawrence Berkeley National Lab
- Wildlife Fisheries Biology Program, UC Davis, CA
- CCCSD Laboratory Program, Martinez, CA
- CDFA Henry J. Voss Plant Pest Diagnostic Center, Sacramento, CA
- EBMUD Lab Additions & Renovations, Oakland, CA
- Food Science & Technology Laboratories University of California, Davis, CA
- Graduate Research Center, University of Nevada, Reno, NV
- Hunt Hall's Agronomy & Field Crop Labs University of California, Davis, CA
- Kearney Agricultural Research & Extension Center University of California, Parlier, CA
- Myer Hall - Food & Agriculture Lab Renovations University of California, Davis, CA
- Sinsheimer Cell & Molecular Plant Biology Lab University of California, Santa Cruz, CA
- S.O.M. Research Building III, U.C. Davis Medical Center, Sacramento, CA
- Water Quality/Water Treatment Laboratory, San Francisco Water Dept., Millbrae, CA
- California Department of Food & Agriculture Chemistry Laboratories, Sacramento, CA
- Chiron Corporation Renovations, Emeryville, CA
- DPRF/NTTC Laboratory Complex - Building 132, Lawrence Livermore National Lab, Livermore, CA
- Dye Pump & Uranium Storage Facilities Buildings 491 & 492, LLNL, Livermore, CA
- Environmental Services Facility, (Hazardous Waste Management Facility), UC Davis
- Roche Bio-sciences- Bldg. S2 - Palo Alto, CA
- State Dept. of Public Health lab, Berkeley, CA
- Thimann Chemistry, Nat. Sci. Unit I Lab Alts. University of California, Santa Cruz, CA
- Warren Hall Public Health Lab Alts. - UC Berkeley

3. TEAM INFORMATION



Interdisciplinary High Tech. Science Complexes

- Academic Core/ Science Hill Master Plan, UCSC
- Biomedical Sciences Lab Facility Master Plan University of Nevada, Reno (5-Bldg. Complex)
- CAHFS North and South Central Reference Labs U.C., Davis, Turlock and Tulare, CA
- CALTRANS Headquarters, Sacramento, CA
- CNPRC Planning Guide, UC, Davis, CA
- Conservation Vet. Sciences Center Master Plan, San Diego Wild Animal Park, Escondido, CA
- Diagnostic Center for Population & Animal Health Michigan State University, Lansing, MI
- Genomics Research Center, LLNL, Livermore, CA
- Hearst Memorial Mining Building Program, Material Sciences & Mineral Engineering labs University of California, Berkeley, CA
- LLNL Human Resources Complex Master Plan
- Hooper Foundation Microbiology Institute, HSIR East & West Research Lab Towers - UCSF
- Marsh Laboratory Facility Assessment Montana State University, Bozeman, MT
- Medical Center - Bldg. 663, LLNL, Livermore, CA
- Planetarium & Center for Astronomy Tarleton State Univ. - TAMUS, Stephenville, TX
- OC & MSB Pharmacology Laboratories University of California, San Francisco, CA
- Science Library VE Peer Review University of California, Santa Cruz, CA
- SFO Data Center, SFIA, SF, CA
- SND- NMD Lab. Complex VE Peer Review Los Alamos National Lab, Albuquerque, NM
- Toxic Pollutant Health-Research Lab, UC Davis, CA
- Uniden Headquarters Master Plan Competition, San Diego, CA
- Wise Center Assessment & Planning Guide, Mississippi State University, Starkville, MS

Pacific Rim Projects

Mr. Wong has been a leader and advocate for an inclusive, user-participatory design process. A select list of his recognized work in the Pacific Rim includes:

- Wakabadai New Town, Tama, Japan (2008)
- Enchanted Forest Theme Park, Nasu, Japan (2002)
- Keehi Marina & Ocean Club - Honolulu, HI (2001)
- Mega City Development Plan, Macau, PRC (2000)
- Tianheng Island Master Plan, Qingdao, PRC (1999)
- International Exhibition Center, Jinan, PRC (1998)
- Sanlian Town Master Plan, Jinan, PRC (1997)
- Oibirin Univ. Admin. Bldg. & Central Campus Quad Tokyo, Japan (1997)
- Phoenix Plaza Office Tower, Jilin City, PRC (1996)
- Towa Resort Hotel, Guam; Akebi Membership Hotel & Towa Grand Hotel, Nasu, Japan (1996)
- Dai Nippon Headquarters, Tokyo, Japan (1996)
- Shanghai International Plaza, Pudong, PRC (1995)
- Center for Contemporary Graphic Art Fukushima Prefecture, Japan (1995)
- Uzumini Golf Club, Fukushima, Japan (1994)
- Nasu Highland Golf Club - Nasu, Japan (1994)
- Regus Crest Grand & Royal Country Clubs Hiroshima, Japan (1993) (1992)
- Highland Village Master Plan - Nasu, Japan (1991)
- Fuji Surugawan Mountain Development Plan, Nagaizumi-cho, Japan (1990)
- Angel No Mori Town Plan, Ueno City, Japan, (1990)
- Golden Bridge Mansions - 30-Story High-rise Mixed-use Residential Tower- Shanghai, PRC (1986)

Peter W. T. Wong, RA, AAAE, CSI, GRHC, I²SL, ILFI, SCUP
Senior Principal, Architect, Lab & Veterinary Facilities Planner

LECTURES / SPEECHES

A select listing of Mr. Wong's guest lectures and speaking engagements are listed below:

- **"Creation Care - Environmental Stewardship; Leaving a Lasting Legacy & Integrity at Work"** BMF Leadership Luncheon Presentations - El Cerritos & Albany, CA - 2015, 2016 & 2017
- **I²SL National Webinar: "Healthy, Humane & Hygienic Animal Care Facilities"** - 08, 2016
- **"Quality Design through Quality Relationships"** UC Davis, Asian-American Studies - May, 2011
- **"Livestock Disease Isolation Facility Case Study"** Kansas State Univ., College of Veterinary Medicine Benchmarking of Peer Institutions - April, 2010
- **"125-yr. Anniversary Vet. School Celebration"** Iowa State Univ., College of Veterinary Medicine Feature Speaker - Master Plan, April, 2005
- **"Global Practice - The Pacific Rim"** Dept. of Architecture & Environmental Design Calif. Polytechnic State Univ. - San Luis Obispo, CA CSI Construction Sciences Forum Feature Speaker/ Round Table Panelist, 01/ 2003 & Design Juror/ Critic 2013, 2009, 2005, 2001, 1999, 1990 & 1987
- **"State-of-the-art in Laboratory Planning"** Dept. of Agriculture | Colleges of Veterinary Medicine - Purdue University SVM - West Lafayette, IN, 2008 - Penn State & University of Pennsylvania, 2003 - University of Wisconsin, Madison, WI, 2002 - Mississippi State Univ., Starkville, MS 2000
- **"Shaping Spaces / Making Places"** College of Environmental Design, Fall Lecture Series, Dept. of Architecture, University of California, Berkeley - 1999
- **"The 21st Century YMCA"** YMCA Design Forum - Las Vegas, NV, 1998
- **"Hazardous Waste Facilities Design"** Panelist, Michigan State University, East Lansing, MI, 1997
- **"Excellence in Zoo Hospital Design"** American Association of Zoological Veterinarian National Conference, Oakland, CA 1992
- **"Facilities Assessment & Upgrades"** Montana State University, Bozeman, MT, 1992
- **"Planning & Design Symposium"** South Dakota State Univ., - Brookings, SD, 1991
- **"Contextualism in Design"** Guest Lecturer/ Design Critic; 5th Yr. Thesis/ Studio Harvard University GSD - Cambridge, MA
- **"Planning Asian Amusement Parks"** Surety Forum, San Francisco, CA, 1989
- **"Diversity in Education & Careers Conference"** UCLA, Los Angeles, CA, 1989
- **"Programming of R&D Facilities"** Facilities Planning & Design Seminar The University of Chicago, 1989
- **"Exemplary Campus Planning"** School of Medicine - Univ. of Nevada, Reno, 1986
- **"Strategic & Tactical Health Science Planning"** Council of Dept. Chairs & Directors School of Vet. Medicine - U.C Davis, CA, 1986
- **"Seismic Designs of Non-Structural Elements - New Safety Concerns"** Dept. of Energy Conference - Las Vegas, NV, 1985
- **"A Paradigm Shift in H.U.D. Federally-Subsidized Family Housing for At-Risk Communities"** AIA National Convention, SF, CA, 1985

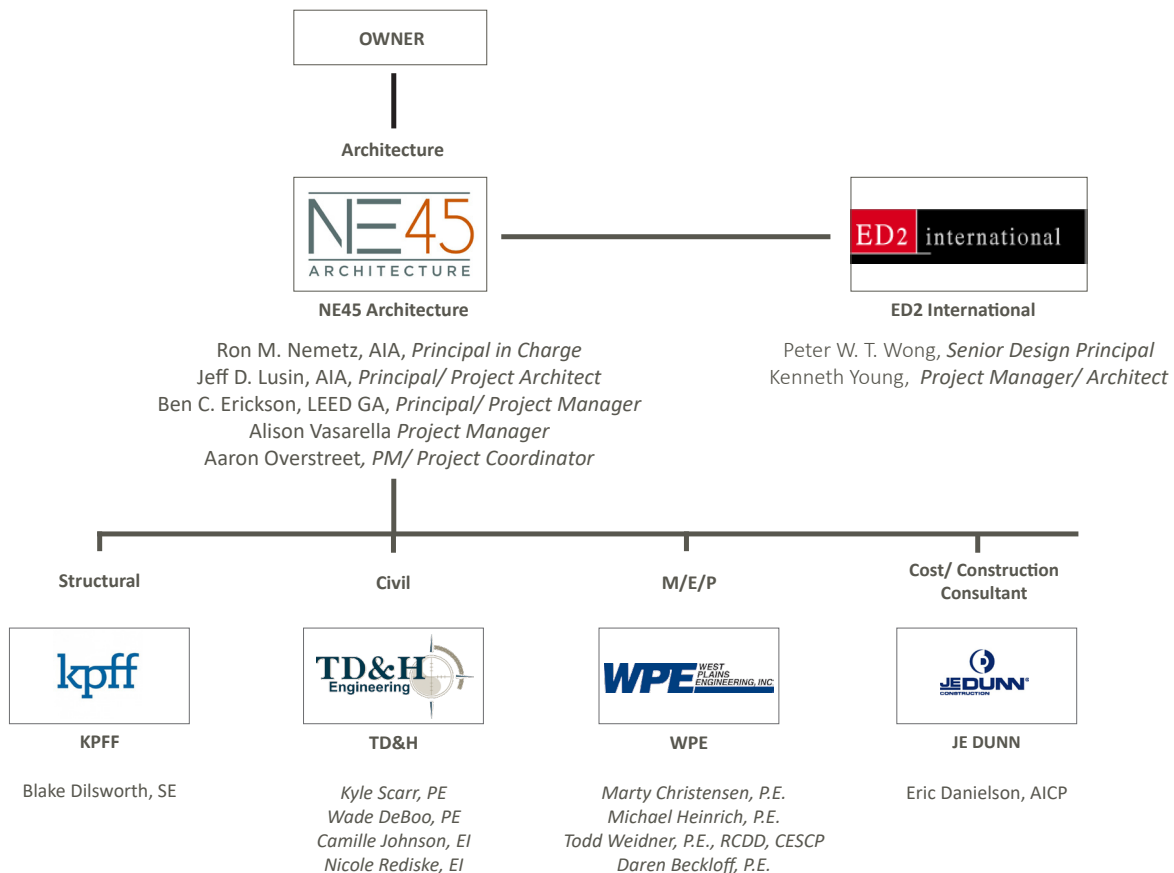
PUBLICATIONS / TECHNICAL PAPERS

- **Poetic Place-Making Exhibition (1976-2017)** 200+ Project Images & 41 Yr. of Practice - Berkeley ED2 International, September 9th thru 22nd, 2017
- **ASCE Construction Project of the Year - 09/2014** Oakland BART Connector Stations & Doolittle MS&F
- **AMERICAN SCHOOL & UNIVERSITY** Outstanding Designs - Education Interior Showcase - College of Marin Science/Math/Nursing Central Plant - Marin Catholic Student Center pp. 53 & 93, 08/2013
- **VISIONS MAGAZINE**, summer 2012 - pp. 16-27 How Iowa State's College of Veterinary Medicine Got Its Groove Back - Lloyd Vet. Med. Center Ph. 1 & 2
- **R&D MAGAZINE, LAB DESIGN**, New Projects, DCPAH, Reed Business Information Science Group, A Division of Reed Elsevier, Inc., 11/02/05
- **AMERICAN SCHOOL & UNIVERSITY** Outstanding Post-secondary Building Citation, Tarleton State Planetarium & Center for Astronomy, Texas A & M Univ. System - Stephenville, TX, 11/ 01
- **THEME AND AMUSEMENT PARKS** Recreation Parks- Zoos- Waterworlds By Francisco Asensio Cerver Arco for Herst Books International, NY, NY 10019 ISBN-0-8230-5350-4, Nasu Highland Park, 1997
- **CENTER FOR CONTEMPORARY GRAPHIC ART** 1997 - 1999 (Museum of the Year, Japan, 1995) Tyler Graphics Archive Collection (CCGA) Miyata 1, Shiota, Sukagawa-shi, Fukushima 962-0711, Japan, 1999
- **JAPAN LANDSCAPE & NIKKEI ARCHITECTURE** Center for Contemporary Graphic Art Fukushima Prefecture, Japan, 01/ 1995
- **UNIVERSITY SCIENCE FACILITIES** Tradeline, Inc. Publications - Sinsheimer Lab University of California, Santa Cruz, 1993
- **INTERIOR DESIGN** The Top 100 Interior Design Giants - **Hotel / Hospitality Interiors** (36th in USA), 1994 - **Corporate Interiors** (108th in USA) 1992 - 1994
- **ATHLETIC BUSINESS** - Architectural Showcase Peninsula Family YMCA, San Mateo, CA, 06/ 93
- **AMERICAN CHAMBER OF COMMERCE JOURNAL, JAPAN** - by Robert L. Cutts "An American Architect relives the 50s", 07/ 92
- **PROCESS: Architecture Issue No. 103**, Nasu Highlands & Related Developments, 05/ 92
- **RESORT MAGAZINE** - Regus Crest Grand Country Club, Hiroshima, Japan, 07/ 93 - Nasu Highland Golf Club, Nasu, Japan, 03/92 - Design Approaches- Amusement Parks, 07/ 91 - Fantasy Pointe Resort, Tochigi, Japan, 03/ 91
- **WORLD JOURNAL** Article on Personal & Firm Profile, 06/ 91
- **STREET RODDER MAGAZINE** Volume 19 No. 11, "Rock & Roll Plaza" Fantasy Pointe, Nasu, Japan, 11/ 90
- **ARCHITECTURE** - by Oliver R. Witte "The Computer as a Tool for Making Presentations" Technology & Practice Shanghai Golden Bridge Mansions, PRC, 04/88
- **ED2 INTERNATIONAL WORKING PAPERS** - "Design & Planning - Animal Care Facilities"- 2016 - "Design for Bio-safety Level 3 Containment"- 2017 - "Design & Planning - R&D Facilities"- 2016

3. TEAM INFORMATION

Organizational Chart

NE45 has assembled a consultant team that is technically strong and is actively working on or has completed several similar projects. Our team offers a diverse group of talent with both design and construction management experience, who will provide quality services within the established project time line.



3. TEAM INFORMATION

Structural

45 Fremont Street, 28th Floor San Francisco, CA 94105 415.989.1004 kpff.com



Education

Bachelor of Science, Civil Engineering
Michigan State University

Registrations

Registered Structural Engineer
CA #S3929

Registered Civil Engineer
CA #C48221

Registered Professional Engineer
DC, GA, IN, KS, KY, MA, MI, MD, MN,
NY, TX

Affiliations

Structural Engineers Association of
Northern California

American Institute of Steel
Construction

American Society of Civil Engineers

Blake Dilsworth, SE

Principal-in-Charge | Structural Engineering

Blake Dilsworth leads the structural design and management of many of KPFF's highest profile projects. These include over twenty Design/Build and Integrated Project Delivery (IPD) projects. His deep understanding of the complexities involved with working with large teams comprised of designers and contractors guides development of appropriate structural systems which complement all of the project's building systems. Blake understands that success must be all-inclusive. Subsequently his solutions balance the project's functional and aesthetic requirements with the fundamental structural demands. To insure that client goals and objectives are met Blake is committed to his projects from schematics through completion. His diverse, award-winning portfolio ranges from medium-rise concrete and steel structures to low-rise wood and masonry structures for private developers and public agencies of nearly all project types.

Project Experience

College of Marin; Kentfield, California

Science/Math/Central Plant Complex Facility (LEED Gold Certified)

Fine Arts Building Weatherization Program

Palo Alto Medical Foundation San Carlos Center; San Carlos, California

Palo Alto Medical Foundation Sunnyvale Center; Sunnyvale, California

San Jose State University Campus Village Phase II; San Jose, California

College of San Mateo Buildings 12, 15, 17, 34 Renovations; San Mateo, California

University of California, Riverside

Student Activity Services Building (LEED Silver Certified)

Intercollegiate Athletics Facility Renovation DPP

Humboldt State University; Arcata, California

University Center Expansion and Renovation

Student Recreation Center

University of California, Merced Joseph E. Gallo Recreation and Wellness Center;

Merced, California (LEED Gold Certified)

California State Polytechnic University, Pomona; Pomona, California

Residential Suites Phase I

Residential Suites Phase II (LEED Silver Certified)

San Francisco State University Village at Centennial Square; San Francisco, California

California State University Bernardino Housing and Dining Commons; San

Bernardino, California

California State University Channel Islands Student Housing III; Camarillo, California

University of California, Berkeley Walter A. Haas School of Business Administration

Building; Berkeley, California*

Michigan State University Engineering Building Addition; East Lansing, Michigan*

3. TEAM INFORMATION

Civil

KYLE L. SCARR, PE

GEOTECHNICAL/CIVIL ENGINEER / PRINCIPAL REGIONAL MANAGER



TD&H Engineering
234 East Babcock, Suite 3, Bozeman, Montana 59715
kyle.scarr@tdhengineering.com • Office: 406.586.0277

EDUCATION

Montana State University

Master of Science, Civil Engineering, Geotechnical. 2008

Montana State University

Bachelor of Science, Civil Engineering. 2004

REGISTRATIONS

Professional Engineer
Montana, 16813PE
Idaho, 15031PE

Gallatin County SE

PROFESSIONAL EXPERIENCE

Kyle is the Bozeman Regional Manager and a geotechnical/civil engineer who specializes in foundation investigations, slope stability, as well as general civil engineering design. He manages projects such as land developments, site plans, street, grading, drainage, water and sewer improvements. Kyle has a Master of Science in Civil Engineering from Montana State University and has been with TD&H Engineering since 2005. Mr. Scarr has provided engineering services on school projects ranging from preliminary studies to final design and construction management.

PROJECT EXPERIENCE

Sacagawea Middle School Preliminary Architectural Report, Bozeman, Montana.

Meadowlark Elementary School, Bozeman, Montana.

Monforton School Addition and Renovation, Four Corners, Montana.

Montana State University Harrison Street Improvements, Bozeman, Montana.

Montana State University South Fieldhouse Parking Lot Improvements, Bozeman, Montana.

Montana State University Irrigation Reservoir Expansion, Bozeman, Montana.

Montana State University Langford and Hapner Hall Additions, Bozeman, Montana.

Montana State University North Hedges Residence Hall #3, Bozeman, Montana.

Chief Joseph Middle School, Bozeman, Montana.



3. TEAM INFORMATION

M/E/P



MECHANICAL ELECTRICAL PLUMBING POWER
AN ENGINEERING SOLUTION CENTER



MARTY CHRISTENSEN, PE, LEED AP
MECHANICAL ENGINEER
OFFICE MANAGER
PRINCIPAL

Professional Experience

Marty Christensen is a Registered Mechanical Engineer and the Office Manager of the Sioux Falls office. He is responsible for all phases of project design including plumbing, fire protection, heating, ventilation and air conditioning. He has experience designing mechanical systems for a wide range of commercial, institutional, industrial, and high-density residential projects. Marty serves as project engineer for the design, supervision and preparation of the plans and specifications, as well as the construction administration, for these types of projects.

Marty has served as the Project Mechanical Engineer and/or Project Lead Consultant on various animal facilities including large animal, equine, companion and wildlife. Other facilities include veterinary diagnostic labs, isolation, necropsy, surgery, animal holding and testing, as well as research and vivarium facilities

Marty has been with West Plains Engineering, Inc. for over 20 years.

Education

Bachelor of Science in Mechanical Engineering
South Dakota State University - 1994

Registrations

Professional Mechanical Engineer (SD, IA, NE)

Affiliations

American Society of Heating, Refrigeration and Air Conditioning Engineers (ASHRAE)
LEED Accredited Professional



PROJECT EXPERIENCE

Animal Facilities

Iowa State University/CVM
Ames, IA

- Ph. 1 - Lloyd Vet. Med. Center - Equine/Large Animal Hospital Addition & ISU-VDL BSL-3 Renovations & Certification (LA Disease Isolation Wing) - \$51.05 Million

- Ph. 2 - Hixson-Lied Small Animal Hospital Renovations & Office Building Addition (Isolation and Fluid Wards) - \$46.5 Million
- CVM Lab Animal Resources HVAC Improvements - \$3.3 Million

University of Nebraska/VDC
Lincoln, NE

- New Veterinary Diagnostic Center Pre-design & Successful Fundraising (\$45 Million)

South Dakota State University
ADRDL & ARW
Brookings, SD

- New Animal Resources Wing (2000) \$6.3 Million
- ADRDL /VDBS Needs Assessment, new Additions & Retro-commissioning and renovations of existing ADRDL with BSL-3 Microbial Infectious Disease teaching, diagnostics and research. \$60 Million (estimate)

3. TEAM INFORMATION

M/E/P



MECHANICAL ELECTRICAL PLUMBING POWER

AN ENGINEERING SOLUTION CENTER



MICHAEL S. HEINRICH, PE, LEED AP, BEMP
MECHANICAL ENGINEER
RAPID CITY MECHANICAL DEPARTMENT HEAD

Professional Experience

Michael Heinrich is a Registered Professional Mechanical Engineer and head of the Mechanical Department in Rapid City. He is responsible for design and supervision of the preparation of plans and specifications for all types of medical, educational, government, religious, commercial, institutional, and industrial projects. Michael is involved with the design of all aspects of mechanical systems including HVAC, controls, plumbing, and fire protection systems. In addition to his design capabilities, his project management responsibilities include construction observation and inter-discipline coordination for these types of projects.

Michael's educational project experience includes new educational facilities, as well as major renovations and expansions. His higher education project experience also includes a major remodel of the Devereaux Library, remodel of the Surbeck Dining Facility and the Paleontology Building at the South Dakota School of Mines and Technology in Rapid City.

Michael has been with West Plains Engineering since 2001.

Education

Bachelor of Science in Mechanical Engineering
South Dakota School of Mines & Technology - 1999

Registrations

Professional Mechanical Engineer (SD, ND, WY, MT, NE)

Affiliations

American Society of Heating, Refrigeration and Air Conditioning Engineers (ASHRAE)
Black Hills Chapter ASHRAE - Historian/Past President
LEED Accredited Professional

WEST PLAINS ENGINEERING, INC.

RAPID CITY, SD
SIOUX FALLS, SD
CEDAR RAPIDS, IA
CASPER, WY
BISMARCK, ND

westplainsengineering.com

3. TEAM INFORMATION



MECHANICAL ELECTRICAL PLUMBING POWER
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TODD WEIDNER, PE, LEED AP, RCDD
ELECTRICAL ENGINEER
ELECTRICAL SPECIALTIES MANAGER
PRINCIPAL

Professional Experience

Todd Weidner is a Registered Electrical Engineer and the Head of the Electrical Specialties Division. Todd is involved in all aspects of project electrical design, from inception to completion. He is responsible for preparation and supervision of plans, and specifications, construction and administration for all types of commercial, institutional, industrial, environmental, correctional and high-density residential.

Todd has served as the Project Electrical Engineer and/or Project Lead Consultant on various animal facilities, including large food animal, equine, companion and wildlife industries. Other facilities include veterinary diagnostic labs, isolation, necropsy, surgery, animal holding and testing.

Todd has been with West Plains Engineering, Inc. since 2000.

Education

Bachelor of Science in Electrical Engineering
University of Iowa - 1988

Registrations

Professional Electrical Engineer (IA, SD, IL, MO, CO, OH, MN, WY, UT)
LEED Accredited Professional
Registered Communications Distribution Designer (RCDD)

Affiliations

South Dakota Electrical Council (SDEC)
City of Sioux Falls, SD - Electrical Board of Examiners and Appeals
Building Industry Consulting Service International (BICSI)

WEST PLAINS ENGINEERING, INC.

RAPID CITY, SD
SIOUX FALLS, SD
CEDAR RAPIDS, IA
CASPER, WY
BISMARCK, ND



PROJECT EXPERIENCE

Animal Facilities

Iowa State University/CVM
Ames, IA

- Ph. 1 - Lloyd Vet. Med. Center - Equine/Large Animal Hospital Addition & ISU-VDL BSL-3 Renovations & Certification (LA Disease Isolation Wing) - \$51.05 Million

- Ph. 2 - Hixson-Lied Small Animal Hospital Renovations & Office Building Addition (Isolation and Fluid Wards) - \$46.5 Million
- CVM Lab Animal Resources HVAC Improvements - \$3.3 Million

University of Nebraska/VDC
Lincoln, NE

- New Veterinary Diagnostic Center Pre-design & Successful Fundraising (\$45 Million)

South Dakota State University
ADRDL & ARW
Brookings, SD

- New Animal Resources Wing (2000) \$6.3 Million
- ADRDL /VDBS Needs Assessment, new Additions & Retro-commissioning and renovations of existing ADRDL with BSL-3 Microbial Infectious Disease teaching, diagnostics and research. \$60 Million (estimate)

3. TEAM INFORMATION

M/E/P



MECHANICAL ELECTRICAL PLUMBING POWER

AN ENGINEERING SOLUTION CENTER



DAREN BECKLOFF, PE, LEED AP
SENIOR ELECTRICAL ENGINEER

Professional Experience

Daren Beckloff is an Electrical Engineer and Project Manager for the Rapid City, South Dakota office of West Plains Engineering, Inc. He is responsible for design and supervision of plan preparations and specifications for all types of commercial, institutional, industrial and high-density residential projects. Daren is involved with the design of power distribution, emergency power systems, lighting, signal, fire alarm and SCADA systems. In addition to his design capabilities, his project management responsibilities include construction observation and interdisciplinary project coordination.

Daren has been with West Plains Engineering, Inc., since 2007 and has been a consulting engineer for over 20 years.

Education

Bachelor of Science in Architectural Engineering
Kansas State University - 1991

Registrations

Professional Electrical Engineering (CO, SD, MT, ND, WY, NE, AZ)

Affiliations

South Dakota Electrical Council (SDEC) - Black Hills Chapter
South Dakota Engineering Society
LEED Accredited Professional

WEST PLAINS ENGINEERING, INC.

RAPID CITY, SD
SIOUX FALLS, SD
CEDAR RAPIDS, IA
CASPER, WY
BISMARCK, ND

westplainsengineering.com

3. TEAM INFORMATION

Qualifications

1. RELEVANT RECENT VDL EXPERIENCE

(Including BSL-2, BSL-2+/Enhanced and BSL-3 facilities)

ED2i is committed to design excellence in Veterinary Diagnostic Lab design. The firm has provided a full range of planning, programming and design services for 150+ academic institutions and government agencies nationwide. Publicly funded state and local projects comprise a significant portion of ED2i's commissions. In 41-years of practice, ED2i has planned and designed 36 of the 61 AAVLD and USDA NAHLN Accredited Veterinary Diagnostic Labs (VDLs) around the country (most of any firm). Their Senior Principal of Design, Peter W.T. Wong, RA/I2SL/SCUP, is known for his case study/PowerPoint presentation featuring 50 Veterinary Diagnostic Laboratories around the world. This case study presentation includes American, British Commonwealth/Canadian/Australian facilities and includes veterinary projects in China and Japan. Having worked with 23 of the 30 AVMA Accredited CVM around the country (most of any firm), he will facilitate focus group workshops for the site evaluation, program validation and all design phases on the project and his seasoned, astute and talented senior support staff will be involved technically on all project delivery phases from inception to completion.

Safe, secured, flexible/modular, efficient, attractive, interactive and sustainable laboratories are our forte. ED2 International has done 250+ lab buildings for over 100+ institutional lab clients. As a multidisciplinary planning, architectural and interior design practice, they are recognized as a design-oriented, award-winning practice that plans program-appropriate and site-specific, high-performance facilities that are systems-integrated, eco-friendly and energy smart. Their experience in the programming and design of veterinary diagnostic laboratories leads to our team's holistic understanding of the bio-containment/bio-security complexities and the twelve key mission statements of most veterinary diagnostic centers as summarized below:

1. Identify & solve infectious diseases quickly to:

- a. Prevent their spread
- b. Minimize animal losses
- c. Determine the causes of death to animal population
- d. Provide early warning system for impending epidemics

2. Select appropriate preventive & therapeutic measures to:

- a. Save lives of surviving pets in geographical regions
- b. Avoid unwanted extermination of livestock, equine & wildlife populations

3. Improve Homeland Security/Anti-Bioterrorism (BT)/Anti-Chemical-Terrorism (CT) capabilities

4. Support & partnership with referring practitioners

5. Serve as sentinels of human diseases by:

- a. Identifying potential exposures to zoonotic diseases
- b. Determining environmental pollutants with known human carcinogenic potentials that may threaten animal & human health

6. Safeguard public health by:

- a. Alerting animal owners & family members of possible health risks
- b. Advocating good nutritional & food safety practices
- c. Developing strategic action plan to control & eradicate potential outbreaks of infectious diseases

7. Recognize & disseminate new knowledge

8. Develop research methodologies to improve testing, prevention & treatment of infectious diseases

3. TEAM INFORMATION

9. Invent interdisciplinary lab procedures/instrumentation

10. Train caring veterinary students, technicians & vets. in the problem-solving approach to disease diagnosis through enhanced learning environments

11. Contribute to emotional closure to grieving processes

12. Uncover & document cases of animal abuse

ED2 International has programmed and designed 11 Veterinary Diagnostic Laboratories in America's heartland and has acted in association with local firms of record on seven of those projects:

- Iowa State University VDL BSL-3 & ABSL-3 Renovation, Ames, IA (In/Vision, Des Moines, IA)
- Iowa State University New Stand-Alone VDL Master Plan, Ames, IA
- KSVDL, Kansas State University CVM, Manhattan, KS (Treanor HL Architects, Lawrence, KS)
- Michigan State Diagnostic Center for Population Animal Health, Lansing, MI (HED, Southfield, MI)
- Montana State Marsh Lab Assessment, Bozeman, MT
- South Dakota State's ADRDL and ARW Additions & Renovations, Brookings, SD (HAI Architects, Sioux Falls)
- SDSU New ADRDL, Brookings, SD (Clark Enersen Partners)
- University of Minnesota VDL, St. Paul, MN (Lindberg / Pierce Architects, St. Paul)
- University of Nebraska – Veterinary Diagnostic Center, Lincoln, NE
- University of Wisconsin WDDL Peer Review, Madison, WI (Stramg Architects, Madison)
- University of Wyoming WSVL Renovations and Expansion, Laramie, WY (HDR, Denver)

ED2 International has helped in the cost planning of the BSL-3 upgrades for the 3 Pennsylvania Animal Diagnostic Lab System (PADLS) VDLs in Pennsylvania and with Washington State at Pullman, WA:

- Pennsylvania Veterinary Laboratory (PVL) Harrisburg, PA
- Animal Diagnostic Laboratory (ADL) Penn State University Park, PA
- New Bolton Center (NBC) at Kennett Square, Philadelphia, PA

ED2 International's 11 VDL projects for the South Region Education Board, SREB schools include:

- Louisiana Animal Disease Diagnostic Laboratory (LADDL), LSU, Baton Rouge, LA (Tipton Architects)
- Mississippi State's seven MVRDLs lab assessment and the Wise Center Master Plan, Starkville, MS
- (Laurel, Pearl, Rankin County, Starkville & Stoneville Lab & two transport stations at Biloxi & Oxford)
- North Carolina State New Agricultural Lab – Vet. Facilities Planner on (JE DUNN CM Team) Raleigh, NC
- The new central reference MVRDL/PRDL Labs at Pearl, MS (FoilWyatt Architects) & the current necropsy suite renovations/addition at the Wise Center at Starkville, MS (Pryor + Morrow Architects – Columbus, MS)
- University of Florida CVM Justification for new VDL at Gainesville, FL to complement Bronson Lab at Kissimmee, FL
- University of Missouri CVM Justification for new UM-VMDL at Columbia, MO

ED2 International also planned, designed and implemented all 11 diagnostic laboratories in California & Washington in the West Coast as the architectural prime/ firm of record:

- John E. Thurman Central Reference Vet. Diagnostic Lab, University of California, Davis, CA for the CAHFS
- Maddy Equine Racing Chemistry Lab Detailed Project Program, University of California, Davis, CA
- Paul Harter Vet. Med. Center Diagnostic Lab – San Diego Zoo New Safari Park (TSA Architects) – Escondido, CA
- Renovations of four CVDLS branch labs in Turlock, Fresno, Tulare and San Bernardino
- New Henry J. Voss Plant Pest Diagnostic Center at Sacramento, CA for CDFA

3. TEAM INFORMATION

- Detailed Project Programming of the two-new full-service CAHFS VDLs at Turlock and Tulare, CA
- Washington Animal Disease Diagnostic Lab (WADDL) Cost Consulting – Pullman, WA
- Western University of Health Sciences CVM Necropsy Suite Program and BSL-3 Containment Upgrades - Pomona, CA

ED2i's select Vet. School master plans and diagnostic & research programming efforts outside of the United States include:

- Nippon Veterinary & Biological Sciences University Master Plan in Tokyo, Japan (Landscape International, Tokyo)
- University of Montreal production food animal research benchmarking program case study in Ontario, Canada
- Latvia University of Agriculture New VDL Program of Requirements (POR) Jelgava, Latvian Mr. Wong's VDL case study he also highlights, approaches to VDL planning from Abbotsford, British Columbia; Calgary, Alberta and University of Guelph in Ontario, Canada, the CSIRO Agricultural Centre at Geelong, Australia. He will also discuss in details elements of other U.S. VDLs at the Cornell University CVM/NYSVDL, the Kord Lab at Tennessee, University of Georgia's new small VDL at Athens, GA; Purdue University's ADDL at Lafayette, IN; Oklahoma State's OADDL, Stillwater, OK, University of Kentucky's VDL in Lexington, KY, the CSU Diagnostic Medical Center at Fort Collins, CO and Texas A&M's TVMDL facilities, College Station, Amarillo, Center, Gonzales & future lab at Canyon, TX. Mr. Wong has also have a benchmarking of ED2 International's current 16 VDL in terms of Net and Gross Square Footages for each lab sections' rooms and spaces. He has presented the fastest growing lab section in Molecular Diagnostics.

New, state-of-the-art construction provides a unique opportunity to create technologically innovative spaces that are both functional and efficient. Computerized energy management and monitoring systems, cutting-edge building construction innovations and other advances in space flexibility are all issues addressed in ED2's broad repertoire of work in the design of state-of-the-art lab facilities. The consideration of such technological advances in robotic, wire/wireless and digital technologies will guarantee that the building meet and exceed the physical and programmatic requirements of this endeavor. It is our hope that the end result of this care in planning and design will be the implementation of a technologically intelligent building equipped to serve many generations to come.

2. EXCEPTIONAL & WIDE-RANGE LAB PROJECT COST PLANNING & BUDGET CONTROLS

In responding to the programmatic, technical and budget requirements of a project, ED2 maintains an excellent record in budget verification, historical cost modeling, cost estimating and formal value engineering. Our cost-containment method of design management has proven extremely effective during the early design phases of a project, when detailed drawings for use in quantity take-offs are limited. Historical cost modeling and building efficiency values are all essential factors we use in determining the primary cost drivers of a design. At the commencement of program validation, the design team will develop a historical cost model, based on a number of similar facilities adjusted to ENR Building Cost Indices reflecting geographical conditions and bidding climates, in order to establish comparable budgetary cost component systems monitoring. Having worked on numerous vet. Diagnostic laboratory projects similar to this one around the country, our team will generate a cost plan graphically by CSI formats from which cost projections may then be analyzed to compare alternative design options and to assist in the selection of the final scheme. We are also well verse in terms of controlling scope creep for the project.

If the State of Montana and MSU wants to involve a Construction Manager Agency (CMA) or Construction Manager at Risk (CM@R), our cost planners listed is JE Dunn and they are one of that best CM/Cost Estimator nationally and their respective cost plans can be compared and reconciled in key project milestones. Once a given and confirmed Total Construction Cost (TCC) is finalized, we shall set a base bid of 90% of TCC and will be 4 to 5 bid alternates totally the remaining 10% of TCC. In public bid projects, we must have a systematic way to compare the bids and allow room to add or subtract from the lowest responsible bidder's base bid pricing. The bid alternates allow us to adjust for a 10% cost swing among the bidders in conformance to budget. We shall establish priorities with the Planning/Building/Steering Committee ahead of time in choosing the preferred order of the Bid Alternates, but we do not have to share that with the bidders.

NE45 and ED2i designs exhibit creative cost effectiveness. Phase-by-phase cost monitoring allows for design adjustments to be made from Programming, Schematic Design, Design Development and Construction Documents at 50% & 90% completion.

3. TEAM INFORMATION

Using this methodology effectively keeps cost estimates and budget in-check throughout the design process. The following are the budget and final cost comparisons for 32 public institutional Design-Bid-Build projects completed by ED2i, illustrating estimated costs, low bid amount in comparison to % differentials. Good estimates to low responsible bids are normally at 10% and historically our projects are within 2.5 to 5.0%. We do show several projects that are greater.

SOLANO COLLEGE – NEW BIOTECHNOLOGY & SCIENCE BUILDING Vacaville, CA (2015)		SAN FRANCISCO ZOO – SOUTH AMERICAN TROPICAL RAINFOREST AVIARY EXHIBITION BUILDING - SF, CA (2015)	
Estimate:	\$ 25 Million	Estimate:	\$ 5.0 Million
Low Bid:	\$ 25 Million	Low Bid:	\$ 5.5 Million
% Difference:	0.0%	% Difference:	+ 10%
SCIENCE/MATH/NURSING/CENTRAL PLANT COMPLEX College of Marin, Kentfield, CA (2011)		OAKLAND AIRPORT BART CONNECTOR – AIRPORT & COLISEUM STATIONS & DOOLITTLE MS&F, Oakland, CA (2011)	
Estimate:	\$ 45,700,000	Estimate:	\$ 494 Million
Low Bid:	\$ 38,800,000	Low Bid:	\$ 492 Million
% Difference:	-15.1%	% Difference:	-0.4%
ISU-CVM - LLYOD VET. MED. CENTER Ph. 2 – HIXSON-LIED SA HOSPITAL ALTS. & OFC. ADDITION - Ames, IA (2010)		ISU-CVM - LLYOD VET. MED. CENTER Ph. 1 – EQUINE /LA HOSPITAL & VDL Addition & ALTERATIONS - Ames, IA (2006)	
Estimate:	\$ 45 Million	Estimate:	\$ 52 Million
Low Bid:	\$ 46 Million	Low Bid:	\$ 51.05 Million
% Difference:	+2.2%	% Difference:	-1.8%
DIAGNOSTIC CENTER FOR POPULATION & ANIMAL HEALTH Michigan State University, Lansing, MI (2003)		MVRDL CENTRAL REFERENCE VET. DIAG. LAB MISSISSIPPI STATE UNIVERSITY Pearl, MS (2004)	
Estimate:	\$ 56 Million	Estimate:	\$ 19 Million
Low Bid:	\$ 58.4 Million	Low Bid:	\$ 18 Million
% Difference:	+3.5%	% Difference:	- 0.53%
LOUISIANA ANIMAL DISEASE DIAGNOSTIC LAB LSU-School of Veterinary Medicine – Baton Rouge, LA (2011)		NEW MISSION CAMPUS City College of San Francisco San Francisco, CA (2005)	
Estimate:	\$23 Million	Estimate:	\$ 58 Million
Low Bid:	\$22 Million	Low Bid:	\$ 61 Million
% Difference:	-4.3%	% Difference:	+5.2%
CHINATOWN YMCA – ADDITION & ALTERATIONS Metropolitan YMCA – San Francisco, CA (2009)		NORTH & SOUTH INTERNATIONAL SHORT-TERM PARKING GARAGES A & G – SFIA, San Francisco, CA (2000)	
Estimate:	\$ 18 Million	Estimate:	\$ 110,000,000
Low Bid:	\$ 17.5 Million	Low Bid:	\$ 112,925,000
% Difference:	-2.8%	% Difference:	+2.6%
CENTER FOR COMPARATIVE MEDICINE UC Davis: Calif. National Primate Research Center Davis, CA (2000)		SCHOOL OF MEDICINE – RESEARCH BLDG. III UCDMC – U.C Davis Medical Center Sacramento, CA (2000)	
Estimate:	\$ 10,765,000	Estimate:	\$ 12,800,000
Low Bid:	\$ 9,843,600	Low Bid:	\$ 13,565,000
% Difference:	-8.6%	% Difference:	+5.9%
ELILU HARRIS STATE OFFICE BUILDING 24 Floors of Tenant Improvements Oakland, CA (1998)		JEAN & CHARLES SCHUZ INFORMATION CENTER Library / Computer Center (2000) Sonoma State University, Rohnert Park, CA	
Estimate:	\$ 28 Million	Estimate:	\$ 32,500,000
Low Bid:	\$ 28 Million	Low Bid:	\$ 33,400,000
% Difference:	0.0%	% Difference:	+2.7%

3. TEAM INFORMATION

HENRY J. VOSS PLANT PEST DIAGNOSTIC CENTER California Dept. Food & Agriculture Sacramento, CA (1996)		JOHN E. THURMAN CENTRAL REFERENCE VDL Calif. Animal Health & Food Safety Lab System University of California, Davis, CA (1984)	
Estimate:	\$ 12,878,000	Estimate:	\$ 7,800,000
Low Bid:	\$ 11,619,000	Low Bid:	\$ 8,003,841
% Difference:	- 9.8%	% Difference:	+2.6%
ARS/USDA SAN JOAQUIN VALLEY AGRICULTURAL SCIENCES CENTER (18-Building Research Campus) Parlier, CA (2002)		SFO RENTAL CAR CENTER/QT - "Quick Turnaround" Vehicular Maintenance Center SFIA, CA (2000)	
Estimate:	\$ 19.3 Million	Estimate:	\$ 64 Million
Low Bid:	\$ 18.875 Million	Low Bid:	\$ 62 Million
% Difference:	-2.0%	% Difference:	-3.1%
SINSHEIMER CELL/MOLECULAR BIOLOGY LAB Natural Sciences Dept. University of California, Santa Cruz (1989)		ENVIRONMENTAL SERVICES FACILITY (Hazardous Material Handling Facility) U.C. Davis, Davis, CA (2000)	
Estimate:	\$ 19 Million	Estimate:	\$10.6 Million
Low Bid:	\$ 18 Million	Low Bid:	\$10.8 Million
% Difference:	-5.56%	% Difference:	-1.9%
DOE BUILDING 132 LAB & OFFICE COMPLEX Lawrence Livermore National Laboratory Livermore, CA (2000)		MVRDL NECROPSY LAB ADDITIONS & ALTS. Mississippi State University CVM (Wise Center) Starkville, MS (2012)	
Estimate:	\$90 Million	Estimate:	\$ 13.5 Million
Low Bid:	\$ 92 Million	Low Bid:	\$ 13.6 Million
% Difference:	+2.2%	% Difference:	+0.79%
KSU LARGE ANIMAL RESEARCH CENTER Kansas State University CVM Manhattan, KS (2011)		NEW STUDENT CENTER & CENTRAL PLANT ALTERATIONS - Marin Catholic High School Kentfield, CA (2009)	
Estimate:	\$6.8 Million	Estimate:	\$ 10.5 Million
Low Bid:	\$7.3 Million	Low Bid:	\$ 10.8 Million
% Difference:	+7.4%	% Difference:	+2.9%
WYOMING STATE VET. LAB ADDITIONS & ALTS. University of Wyoming Laramie, WY (2010)		PENNSYLVANIA VET. LAB – BSL-3 Addition Bureau of Animal Health & Diagnostic Services Harrisburg, PA	
Estimate:	\$ 25 Million	Estimate:	\$ 13.5 Million
Low Bid:	\$ 24 Million	Low Bid:	\$ 13.7 Million
% Difference:	-4.0%	% Difference:	+1.5%
HELEN WOODWARD ANIMAL CENTER RSFVH Small Animal Hosp. Tenant Improvements Rancho Santa Fe, CA (2010)		CONCOURSE H BART/ART STATIONS San Francisco International Airport San Francisco, CA (2000)	
Estimate:	\$ 7 Million	Estimate:	\$ 80 Million
Low Bid:	\$ 6.8 Million	Low Bid:	\$ 78 Million
% Difference:	-2.9%	% Difference:	-2.5%

3. EXEMPLARY ABILITIES TO COLLABORATE/ENGAGE WITH PROJECT STAKEHOLDERS

ED2 International is widely known for its expertise in academic facility design of integrated science buildings and veterinary diagnostic labs. We strive to enrich the learning experience through designs that exhibit a balance of functional, aesthetic and symbolic place-making. It is our goal to provide a quick and thorough feasibility study for the State of Montana and MSU on the viability of combining several labs into a collective whole. MSU prides itself on its dedication to delivering the highest quality of education to its students and instilling in them the value of community. It is this noble approach to individual betterment and

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community strengthening that provides cost-effective and optimal usage and stewardship of allocated resources in support of consolidation of spaces, staffing and technologies in detecting, quantifying, confirming and controlling infectious diseases and pathogens that potentially may have devastating to Montana's animal, human and environmental stakeholders. Our ability to control and eliminate potential outbreaks are paramount in developing safe, secured and durable facilities that are high performance and maintenance-friendly in terms of life-cycle costs.

Through our many years of professional experience in planning and design, NE45+ED2i have come to realize that vital to the creation of enduring and meaningful campus environments is collaboration. Only through a genuinely participatory design process, in which key project stakeholders work together to define problems and set objectives and priorities, can a project successfully meet the needs of the many and varied user and interest groups involved. Montana has a wide array of stakeholders that must be included in this planning and design process, a process that promotes structured inputs from the MSU campus administrations and outlying community. Forming a decision-making body that best reflects the broadest possible representation of the community interest groups is an important first step towards establishing trust, transparency, inclusive engagement and credibility within the community. NE45+ED2i will work closely with the designated planning committee and campus facilities planners to maintain open lines of communication with the key stakeholders in this project. This group could and should include: students, parents, faculty, staff, administrators, campus site council, community leaders, neighbors, city, county and applicable state jurisdictional agency representatives. Our team will ensure that interested constituents be invited and kept completely engaged and informed throughout the planning and design process.

ED2 International is well recognized for its development and successful implementation of community outreach strategies. Designing and constructing schools that reflect a community and its needs promotes community pride and enables an entire neighborhood to become a virtual extension of the labs, classrooms and interactive spaces. It is our objective is to allow the campus and community to take ownership of the project and have a major stake in the outcome of the decisions being made. ED2 is well-versed in the area of community outreach. ED2i Sr. Principal for Design Mr. Peter W.T. Wong, who has taught and co-authored the Community Design and Development curriculum for the Department of Architecture at UC Berkeley and at Harvard GSD, Graduate School of Design, is strongly committed to serving the community and supports physical and policy planning for campuses of all levels of education. Mr. Wong will provide principal hands-on involvement in focus group interviews and design charrette workshops facilitation efforts.

COLLABORATION, COMMUNICATION AND COORDINATION

Collaboration is the hallmark of our approach to the creative process. ED2 International is recognized locally, nationally and internationally for innovation and pioneering in the areas of integrated lab facilities planning and ecologically-responsible designs. We are committed to responsive listening, team collaboration, and design excellence. We provide a full range of in-house expertise in planning, programming, and design services. In addition to our many private sector projects, our publicly funded institutional projects comprise a significant portion of our firm's acclaimed commissions.

State-of-the-art lab buildings, building additions, and renovations, provide unique opportunities for: creative place-making, effective shaping and rightsizing of spaces, productive work environments with leading-edge technologies, durable finishes, and sustainable building engineering systems. We strive for excellence in achieving humane, hygienic, and human-scaled places in realizing functional, efficient, ecopreneurial, and energy-smart facilities. Natural daylighting with clear wayfinding, welcoming ambiance and stimulating transition spaces, along with flexibility, sustainability, and durability are creatively addressed in ED2i's extensive repertoire of 17 building typologies and 350+ projects. Since a "Picture is worth a thousand words," see project cut sheets which illustrate some select project images of our lab design aspirations and definitions in realizing the two maxims of our firm which exemplify our 41-Year practice: "The Art of Shaping Spaces and Making Places," and "Quality Designs through Quality Relationships."

With Key Project Stakeholders

ED2 International is known for our effective facilitation in a genuinely inclusive, participatory engagement process-- where all

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project stakeholders work together to cast and verify vision/mission, define and address challenges/opportunities, and justify and prioritize goals/objectives. Our collaborative approach helps to ensure successful realization in meeting and exceeding needs vs. wishes of the many and varied user and interest groups involved. All interested constituents are kept engaged and informed throughout the planning and design process--not just in reactive roles as submittal reviewers, but as proactive participants in ideating, evaluating and selecting alternative concepts, and in making informed choices. To that end, we utilize secure, real-time, project-based websites for ongoing communication.

The designated project planning/steering committee consisting of end users, institutional in-house planning and facilities design staff, and administrators, are active partners working effectively with our consultant team. We view our clients as integral contributors and valuable team members in the planning and design process. As demonstrated at 45 U.S. higher institutional campuses, community outreach and town hall meetings were conducted where the surrounding neighbors were engaged in nighttime meetings and some Saturday brunch Charrette design workshops in inclusive focus group, discussions, gaming and brainstorming sessions to achieve buy-ins from all project stakeholders.

Across Design, Engineering and Construction Disciplines

Our proposed consultant team is not "an assemblage of qualified strangers," but consists of firms and individuals who have worked together for many years with specialized expertise in the building typologies that are unique to a particular project. In every project, a Project Principal supported by a Senior Project Manager as the daily point of contact along with adequate support staff of seasoned, savvy, and talented team members are the established structure for all our firms--from project inception to completion.

Our consultant team shares common core values, are CADD/BIM compatible, and possess transformative leaders in ecologically-responsible designs and sustainable strategies. Our firms are progressive in equal opportunity hiring and promotion. We are committed to serving the community and our clients with good neighbor policies. We achieve thermal, visual, and kinesthetic comfort, while creating inspirational, attractive, functional and memorable spaces.

With Outside Owner-provided Consultants

We recognize the importance of independent outside consultants for HAZMAT assessments and remediation--where friable asbestos, lead paint, radon, CO₂gas, and mold contamination, have to be removed and replaced with environmentally safe materials, encapsulated, or require complete abatement. Likewise, valuable input from owner-provided fire and life safety, environmental health and safety consultants, arborist, geotechnical, hydrological, material testing, wind tunnel testing, commissioning, inspection, staff training and certification consultants, must be involved in critical meetings, conferences, and teleconferences.

These involve proper informational exchanges, clear delineation of roles and responsibilities, action item logs with realistic scheduling for submittals, reviews, adjustments, back-checking, and approval processes, especially our liaison with state jurisdictional agency reviews and approvals. The keys are punctuality, responsiveness, cost-effectiveness, and quality personal service.

4. EXCELLENT GROUP FACILITATION AND COMMUNICATION SKILLS

ED2 believes in a genuinely participatory design process, in which project constituents and stakeholders work together to define problems and set objectives and priorities. Using such an approach to fact-gathering helps to ensure that the project successfully meet the needs of the many and varied user and interest groups involved. Our team will ensure that interested constituents are kept engaged and informed throughout the planning and design process.

In our practice we have found that there are four key principles to large group joint decision making:

1. Consensus: Total Agreement which is very difficult to achieve, especially if there are more than 20 stakeholders.
2. Dissensus: Everyone agreeing to defeating a proposal due to bad neighbor policies.
3. Differences: Respecting differences analogous to passing a bill through Congress, where attentive listening results in a synthesized proposal that has enough benefits that everyone can support the concept in a win-win-win scenario.
4. Indifferences: Where a proposal is temporary accepted through apathy but in the long run, the proposal is never fully actualized.

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It is our opinion that respecting differences and thoughtful responsive problem-solving where trust, transparencies and buy-in through true participatory decision-making is the best approach in collective decision-making and shared governance. Mr. Peter W.T. Wong, RA, as an educator has taught efficacious user-participatory designs at UC Berkeley and California Polytechnic State University's architecture department, San Luis Obispo, CA and is the author of this effective methodology in inclusive collaboration with proper outreach and stakeholder engagement as keys to successful acceptance and creative designs.

COMMUNICATION & PEOPLE SKILLS

"It is not good enough to communicate so that you can be understood. You should communicate so clearly that you cannot be misunderstood." - Ken Sande, Author of the Peacemaker (1991)

Critical to the collaborative process to which this project is committed is a carefully designed and implemented strategy for open communication among all project participants.

Good communication is a function of commitment and carefully structured and managed documentation and distribution strategies. The Project Principal and Project Architect/Manager will be responsible for maintaining open communications between design team members and the University and end users. They will maintain a detailed written record of all communications between the design team and the various entities involved in and interested in the development of the project to ensure that no action is taken that is contrary to or lacking the concurrence of University and State Facilities Planning and Management directives.

This responsibility will be accomplished through a series of regularly scheduled meetings, distribution of conference and telephone minutes and documented findings distributed to the project team, the University, state and the users, as appropriate.

Project Team Coordination Meetings

The mechanism to maintain an open line of communication between project team members will be regularly scheduled coordination meetings. The meetings will be formatted to disseminate information, develop action items and monitor progress. After the Notice to Proceed (NTP), a formalized meeting schedule will be provided and distributed to team members and client. A meeting agenda will be published and distributed a few days prior to each meeting. University and building user representatives are welcome to attend these meetings.

TRADITIONAL AND NEW INTERNET TECHNOLOGIES

"The Key to good decision making is not knowledge. It is understanding. People are always swimming in the former, but they are lacking in the latter." - Malcolm Gladwell, Author (2011)

In addition to traditional electronic internet technology such as email access, electronic bulletin boards and FTP or Project web sites for the purposes of data transfer and teleconferencing, we are well-versed in using new internet technology web-based project host site service, social media as required by our higher education clients for internet collaboration, project archiving, filing and communication management. This service promotes shared and protected access for updated project information and documentation. We are also using this type of service for a number of our larger, public construction projects.

E-mail and telecommunication records will serve as an additional means of communication. Records will immediately be prepared and distributed to all concerned, confirming pertinent information exchanged in communiqués with client, users and consultants. A file copy is directed to the project manager for information.

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DESIGN CHARRETTE - *PROBLEM SOLVING TOGETHER*

- ▶ Our team comes to your site
- ▶ We design on the spot
- ▶ You look over our shoulders
- ▶ Client & Architects collaborate & prioritize
- ▶ We can be more *creative* working uninterrupted
- ▶ It is a real *brainstorming* session
- ▶ You are in on every idea & decision
- ▶ We are a *total team*
- ▶ The final design is a *synthesis*, not a compromise



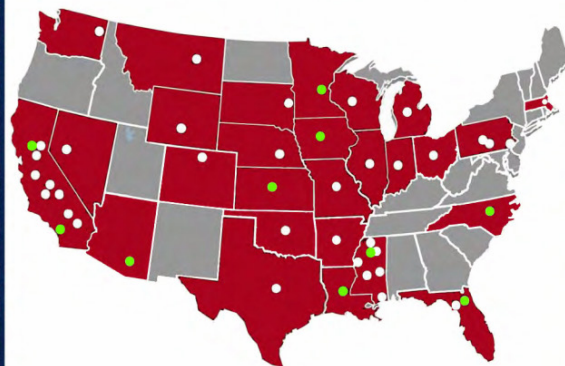
**Inclusive Participatory Process
with Key Project Stakeholders**

Collaborative Approach



National & International Veterinary Teaching Hospitals & Diagnostic Labs

ED2 International's Acclaimed U.S. Veterinary Facilities



● (10) Recent Campus Master Plans & Needs Assessments

(23 of 29) - AVMA COE Accredited U.S. Colleges of Veterinary Medicine

(36 of 61) - USDA - NAHLAN U.S. Accredited Veterinary Diagnostic Labs

- + Canada
- + China
- + Europe
- + Japan
- + Middle East

VTH&C | VDL Case Studies: Benchmarking Peer Institutions

- Australia
- Asia
- Canada
- United Kingdom
- United States

ED2 international

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ED2 INTERNATIONAL'S 108 MAJOR INSTITUTIONAL LAB CLIENTS

LARGE-SIZE INSTITUTIONS

1	AT&T, Inc. San Francisco, California	19	The Ohio State University Columbus, Ohio
2	Bank of America Concord & San Francisco, California	20	Texas A&M University Stehterville, Texas
3	Colorado State University Fort Collins, Colorado	21	U.S. Dept. of Agriculture Tokyo, Japan
4	Dai Nippon Printing Co. Tokyo, Japan	22	U.S. Dept. of the Army Washington, D.C.
5	General Services Administration San Francisco, California	23	U.S. Dept. of Defense Washington, D.C.
6	Hines Development Co. Western Region San Francisco, California	24	U.S. Dept. of Energy Washington, D.C.
7	Honeywell International San Francisco & Sunnyvale, California	25	U.S. Dept. of Health & Human Services Washington, D.C.
8	IBM Corporation 14 Western States & NYC, U.S.A.	26	U.S. Dept. of Homeland Security Washington, D.C.
9	Iowa State University Ames, Iowa	27	U.S. Dept. of Interiors Washington, D.C.
10	Kansas State University Manhattan, Kansas	28	U.S. Veterans Administration San Francisco, California
11	Los Alamos National Laboratory Albuquerque, New Mexico	29	University of Florida Gainesville, Florida
12	Manufacturer Hanover Company San Francisco, California	30	University of Minnesota St. Paul, Minnesota
13	Michigan State University Lansing, Michigan	31	University of Pennsylvania Kennett Square, Pennsylvania
14	Moranaga & Co., LTD Tokyo & Ueno City, Japan	32	University of Wisconsin Madison, Wisconsin
15	Penn. State University University Park, Pennsylvania	33	Washington State University Pullman, Washington
16	Purdue University West Lafayette, Indiana	34	Wells Fargo Corporation San Francisco, California
17	Roche Biosciences Genentech Palo Alto, California	35	Westinghouse Corporation Sunnyvale, California
18	Taisei Corporation - Fuji Saragawan Nagasaki, Japan	36	Zoological Society of San Diego Escondido, California

MID-SIZE INSTITUTIONS

37	Bush Gardens Tampa Bay, Florida	55	Oakland Port Authority Oakland, California
38	Calif. Animal Health & Food Safety Lab Sys. Davis, Fresno, San Bernardino, Tulare & Tullock	56	Pacific Gas & Electric Co. San Ramon, California
39	Calif. Dept. of Food & Agriculture Sacramento, California	57	PADLS Penn. Animal Diag. Lab System Harrisburg, University Park & Philadelphia, PA
40	Calif. Dept. of Transportation (CALTRANS) San Francisco, California	58	San Diego Zoo New Safari Park Escondido, California
41	Calif. National Primate Research Center Davis, California	59	San Joaquin Valley Agricultural Science Ctr Fresno County - Parlier, California
42	Chiron Novartis Emeryville, California	60	Sanlian Group Jinan & Qingdao - Peoples Republic of China
43	East Bay Municipal Utility District Oakland, California	61	San Francisco International Airport San Francisco, California
44	Grubb & Ellis Development Co. Oakland & San Francisco, California	62	San Francisco State University (CSU) San Francisco, California
45	Harvard University Cambridge, Massachusetts	63	San Francisco Zoo & Gardens San Francisco, California
46	International Institute for Sustainable Labs Lynch, Virginia	64	Stanford University Palo Alto & Monterey County, California
47	Kearney Agricultural Research & Ed. Center Parlier, California	65	State of California - DGS Sacramento, California
48	Lawrence Livermore National Laboratory Livermore, California	66	Uniden Corporation, U.S.A. San Diego, California
49	Louisiana State University Baton Rouge, Louisiana	67	University of California Berkeley, California
50	Michigan Division of Natural Resources Lansing, Michigan	68	University of California Davis, California
51	Mississippi State University Starkville, Mississippi	69	University of California San Francisco, California
52	Montana State University Bozeman, Montana	70	University of Montreal Quebec, Canada
53	Mississippi Vet. Research Diag. Lab System Pearl, Starkville, Stoneville, Biloxi & Oxford, MS	71	University of Nebraska Lincoln, Nebraska
54	North Carolina State University Raleigh, North Carolina	72	Wakabada New Town (Nomura Securities) Tama, Japan



3. TEAM INFORMATION

SMALLER-SIZE INSTITUTIONS

73 BART-Bay Area Rapid Transit Authority Oakland & San Francisco, California	91 Nippon Vet. & Life Science University Tokyo, Japan
74 Blank Park Zoo Des Moines, Iowa	92 Northlake Community College Irving, Texas
75 City College of San Francisco (SFCCD) San Francisco, California	93 Obirin University Tokyo, Japan
76 City of Berkeley Health Services Berkeley, California	94 San Domenico School San Anselmo, California
77 Central Contra Costa Sanitary District San Francisco, California	95 Sanpao Corporation San Francisco, California
78 Chaminade College Honolulu, Hawaii	96 S.F. Roman Catholic Archdiocese San Francisco, California (94 schools)
79 College of Marin (MCCD) Kentfield, California	97 San Francisco Unified School District San Francisco, California (28 schools)
80 Cotati-Rohnert Park Unified School District Rohnert Park, California	98 San Francisco Water District Millbrae, California
81 Dominican University of California San Rafael, California	99 Solano Community College (SCCD) Vacaville, California
82 Hambrecht & Quist (VC) San Francisco, California	100 Sonoma State University (CSU) Rohnert Park, California
83 Helen Woodward Animal Center Rancho Santa Fe, California	101 South Dakota State University Brookings, South Dakota
84 Holyoke Community College (HCCD) Holyoke, Massachusetts	102 The University of Chicago Chicago, Illinois
85 Indian Valley College (MCCD) Novato, California	103 University of California Riverside, California
86 Latvia University of Agriculture Jelgava, Latvia	104 University of California Santa Cruz, California
87 Lawrence Berkeley National Lab Berkeley, California	105 University of Missouri Columbia, Missouri
88 Mission College (SCECD) Santa Clara, California	106 University of Nevada Reno, Nevada
89 Modesto Junior College (MJCD) Modesto, California	107 University of Wyoming Laramie, Wyoming
90 NEMS - North East Medical Services Baldy City, San Bruno, SF, South SF, California	108 Western University of Health Sciences Pomona, California

Experience & Qualifications Summary

> Substantial Team Experience

- locally, nationally and internationally recognized
- 41 years of exemplary & exceptional vet. facilities

> Specialized Expertise

- 23 of 29 AVMA Accredited Colleges of Vet. Med. in U.S.
- 36 of 61 USDA-NAHLN Accredited Vet. Diag. Labs in U.S.
- 250+ Acclaimed Modular/Flexible Veterinary Care Facilities
- 15 of Top 40 NSF-Funded R&D Universities in U.S.
- 100+ public and private sector institutional vet. clients

> Sustainable | Environmental Stewardship

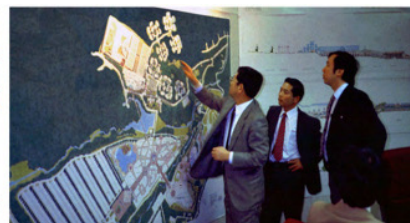
- pioneering, ecologically-responsible designs
- MITI 4th Global Environmental Design Award Recipient
- 5 LEED Gold Rated Veterinary Projects in past 5 years

> Solution Driven Approach

- active & astute listeners & team players

> Strong Leadership

- we lead and not just manage a project
- positive experience working with 2 SVMs per State:
Calif. (UCD & Western U.) - Cogent Database Justifications



Acclaimed Architects & Veterinary Lab Planners

3. TEAM INFORMATION

Reference Letters



SCHOOL OF VETERINARY MEDICINE

Willie M. Reed
Dean

October 23, 2007

To Whom It May Concern:

I am very pleased to write this letter to document the considerable expertise and experience of Peter W.T. Wong, RA, GRFHC, SCUP, and his associates at ED2 International, Architects and Planners.

Peter and his colleagues added their invaluable expertise and experience as consulting architects and planners for our principal architectural firm during the planning and design phase of the new veterinary diagnostic laboratory at Michigan State University.

The Diagnostic Center for Population and Animal Health (DCPAH) is one of the busiest and most complex veterinary diagnostic laboratories in the world, performing over 1.5 million tests per year. We are fully accredited by the American Association of Veterinary Laboratory Diagnosticians to provide diagnostic testing for all animal species. The facility is a 152,000 gross square foot building, and the total project cost was \$58 million.

ED2 International provided services that included assisting us in understanding the site influences for our facility, a physical and graphic facilities audit of existing conditions, and an accurate space projection for move-in and future needs, and they played a key role in helping to facilitate the vision, mission, and core requirements for the facility. They were very helpful to us in providing historical cost modeling, benchmarking of comparable institutions, and cost planning and component cost monitoring of project components. Peter's many years of experience in working with 16 of the 28 accredited U.S. veterinary colleges allowed him to bring exceptional expertise to our project.

Peter and his colleagues were very easy to work with. They listened to our project needs, worked with many of our stakeholders, and spent considerable time investigating alternatives for various needs, including the handling of liquid and solid waste. During the course of the project, we worked with Peter and his project team members, Philip J. Ong (Senior Associate/Technical Coordinator for the project), Lisa L. Boock (Senior Programmer/Facilities Planner [Detailed Project Program - DPP Report]), and Stephen R. Chong, RIBA, Architect/Designer on Siting and Conceptual Design Alternatives. We found all of them to be extremely knowledgeable, experienced, and helpful, and we often called them after our working hours via conference calls or contacted them via email to have our questions answered and to receive updates on various outstanding issues.



School of Veterinary Medicine

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IOWA STATE UNIVERSITY

OF SCIENCE AND TECHNOLOGY

College of Veterinary Medicine

Office of the Dean

2508 Veterinary Administration

Ames, Iowa 50011-1258

515 294-1242

FAX 515 294-8341

November 19, 2010

To Whom It May Concern,

It is with great pleasure that I am asked by Mr. Peter W.T. Wong to write a letter of recommendation for ED2 International, Architects and Planners. Mr. Wong and I have collaborated on the planning and design of veterinary projects for the last twenty years.

My first project with Mr. Wong and his firm worked was at South Dakota State University, Brookings, South Dakota, when I was the executive director of the Animal Diseases Research Diagnostic Laboratory (ADRDIL). Mr. Wong and his firm served as the expert lab planning consultant for HAL Hofman and Associates, Inc. for the new and renovated ADRDIL and the new Animal Resources Wing (ARW). Both of those projects were completed on time and on budget.

In 1997, as dean of the College of Veterinary Medicine at Mississippi State University, I commissioned Mr. Wong and his firm to assist in the assessment and planning of the entire Mississippi Veterinary Research and Diagnostic Laboratory System (MVRDLS) at Jackson, Laurel, Rankin County, Starkville, Stoneville and transport stations at Hattiesburg and Oxford, Mississippi. Mr. Wong also provided exemplary consultant services as expert lab planner for the new MVRDIL - central reference laboratory at Pearl, MS in conjunction with EdWYatt Architects as local firm of record. The new lab was completed in 2008. Mr. Wong also provided preliminary assessment, planning guidelines and master plan for the entire CVM Wisc Center complex and assisted in the planning of a new Consolidated Biomedical Animal Resources Center program for laboratory care and use to address AAALAC accreditation concerns. Currently ED2 International is a lab consultant working with Pryor + Morrow Architects from Columbus, MS in the \$15 million renovation and addition of another MVRDLS full service laboratory at Starkville, MS.

When I became the new Dean of the College of Veterinary Medicine at Iowa State University, ED2 International was selected with the planning of a \$187 million multi-phased ISU-CVM development plan and the Phase 1 to address AVMA and AAALAC accreditations, upgrades of physical facilities and future space needs for the college. The Phase 1 - \$51.05 million Development of the Lloyd Veterinary Medical Center - Equine Large Animal Hospital Addition and VDL renovation was completed in 2008.

Currently, the \$45.01 million, Phase 2 - Small Animal Hospital renovation and addition is under construction and is scheduled for completion by fall of 2012. ED2 International was instrumental as a third-party peer reviewer and expert veterinary facilities planner to advise ISU in evaluating design alternatives and constructing state-of-the-art facilities. For the past three months, Mr. Wong has assisted us in the conceptual design, 3-D modeling and fund raising efforts for the \$12 million Wildlife Care Clinic (WCC) by facilitating planning workshops to build collaborative relationships between the Blank Park Zoo at Des Moines, Iowa and the WCC at Ames, Iowa. Scope of services consist of future upgrades of the zoo hospital with much needed ISU CVM procured and managed mobile imaging equipment and future shared clinical, instructional, research and field services staffing.

Upon completion of all phases, the state-of-the-art designs will provide welcoming, friendly and attractive Veterinary Teaching Hospitals with clearly defined entries for the Small Companion Animal Hospital completed with a Community Practice Outpatient Clinic and a Wildlife Care Clinic, the new Equine and Large Animal Hospital, the ISU-3 upgrade of the existing Veterinary Diagnostic Laboratory and plans for a new stand-alone new Veterinary Diagnostic Center. Other components of the Master Plan provide new space for Laboratory Animal Resources, future comparative medicine and alternative medicine and

To Whom It May Concern

Page Two

October 23, 2007

Before selecting ED2 International, I consulted with many of my colleagues throughout the U.S. who are directors of veterinary diagnostic laboratories. Many of them had worked with Peter and expressed complete confidence in his firm. Without the input of ED2 International, it is likely that our principal architectural firm would have made many errors in construction of our facility, especially in the necropsy area, since that company had had no previous experience in designing a large animal biosafety level 3 facility.

In summary, Peter is an extremely knowledgeable and capable architect/planner, and ED2 International is a solid company. They will bring considerable expertise and commitment to your project. I have no reservation whatsoever in fully recommending them.

Sincerely,

Willie M. Reed, DVM, Ph.D.

Dean

WMR:mp

preventive care research and instructional facilities, the central plant and infrastructure upgrades and the development of disease isolation facilities, interactive spaces for faculty, student and staff.

On April 30th 2005, ISU-CVM celebrated our 125th Anniversary as the oldest land-grant College of Veterinary Medicine in the United States. With over 600 friends and alumni present, Mr. Peter W.T. Wong was one of the featured speakers who help us kick off the event. Mr. Wong presented our College's overall Master Plan and assisted me in a workshop with potential donors for various naming opportunities for gift funding.

Based on their usual inclusive and participatory planning process to meet critical needs, Mr. Wong, as the Senior Principal and Veterinary Facilities Planner was instrumental in leading the entire consultant design team in conjunction with InVision Architecture as the local prime architects of record for the state of Iowa.

As usual, Mr. Wong was supported professionally by capable, savvy, creative and experienced senior staff. Ms. Lisa L. Boock, Senior Lab Programmer and Facilities Planner (31 years with ED2), Mr. Kenneth W. Young, RA, Senior Architect/Veterinary Facilities Planner (31 years with ED2), Mr. Danny Young, AIA, Senior Associate/ Director of Healthcare Services (27 years with ED2) and Mr. Philip J. Ong, Senior Associate, Architect / Technical Coordinator (27 years with ED2) led the overall ED2 team.

This team provided room-by-room data sheets and testifies for each space, narrative summaries for each user group, facilitated retreat workshops to set our mission, vision and core value statements, established engineering building systems, accurate cost plans and technically detailed design criteria, conducted existing building suitability and proximity assessments and field verified existing conditions with due diligence and comprehensiveness.

Assistance in fund raising efforts, working with the dean's cabinet and steering committee effectively and having the ability to convey and explain complex issues through clear communications with end users and facilities management staff, being proactive and not reactive, good listeners who are sensitive to respecting and resolving differences, that is what ED2 International is all about. They are extraordinary veterinary facilities planners and architects who care about and achieve quality for and with their clients. They go beyond the call of duty, go the extra mile and more.

It is an understatement that I am a satisfied and repeat client. I appreciate their dedication and integrity as an organization. I respect their self-effacing style, their political astuteness and their cooperative spirit. They lead and not just manage. They meet and exceed client expectations.

I consider Peter W.T. Wong to be a friend and I respect his intellect, his judgment, his leadership and his commitment. He brings over 38 years of experience with repeat clients from 18 of the 28 U.S. Colleges of Veterinary Medicine and 32 Veterinary Diagnostic Laboratories in their portfolio. They are internationally recognized as one of the premiere design-oriented firms. That is a testament to quality personal service, responsive client relations and working knowledge that are current and cutting edge.

If you have any questions concerning ED2 International, Architects and Planners and Mr. Peter W.T. Wong, please do not hesitate to call me. I can without hesitation recommend Peter and ED2 International to any institution of higher learning interested in exemplary planning and design services. They are one of the best top-tier laboratory and veterinary planners/architects in the nation.

Sincerely,

John U. Thomson, DVM, MS
Dean of Veterinary Medicine

cc: ED2 International

3. TEAM INFORMATION



August 24, 2006

TO WHOM IT MAY CONCERN:

Re: Peter W.T. Wong, ED2 International, Architects and Planners

The Mississippi State University College of Veterinary Medicine is pleased to write this letter of recommendation for Peter W.T. Wong, ED2 International, Architects and Planners.

Mr. Wong's initial work with the College was in assisting with the planning of the state-wide Mississippi Veterinary Research and Diagnostic Laboratory System. He then provided expertise as the laboratory planner for the 40,823 sqft Mississippi Veterinary Research and Diagnostic Laboratory facility recently completed in Pearl, Mississippi. Mr. Wong is now serving as a special consultant to Pryor & Rozow Architects in the pre-planning renovations to the Wise Center, involving the Diagnostic Laboratory, Equine Isolation, Pharmacy and other clinical areas of the Animal Health Center.

Peter Wong's extensive experience with the design of veterinary facilities and ED2 International's survey data make them a valuable planning resource. Mr. Wong is the consummate professional and a pleasure to work with.

Sincerely,

Robert C. Cooper

Robert C. Cooper
Associate Dean for Academic Affairs
Chief Administrative Officer

Richard A. Johnston

Richard A. Johnston
Operations Officer

RAJ:j

Cc: Dr. Kent Hoblet
Peter W. T. Wong

Box 9825 Mississippi State, MS 39762 (662) 325-3432



October 26, 2006

To Whom It May Concern:

In 1997, the state of Mississippi was in need of a new central reference diagnostic laboratory to replace a building that was occupied in the 1960s. As part of the planning process, we sought the advice of ED2 International was consulted because of our knowledge of other facilities the firm had designed and the positive assessments we received from the facilities' occupants.

Mr. Peter W.T. Wong was asked to visit our campus and our state laboratory system, provide a critical assessment of our existing facilities, and produce a plan to address our needs. The process was one of the most memorable and productive studies in which I have participated. Mr. Wong's knowledge and experience in building instructional and research facilities was immediately apparent and beneficial. His ability to seamlessly integrate building design with code compliance, accreditation, pre-determined protocols and procedures was impressive. His enlightened advice was visionary and appreciated. ED2 International has developed an inclusive user-participatory process for planning and design that virtually eliminates a lot of guess work and avoids confusion.

The state ultimately built a Diagnostic Laboratory (\$20 million) in Pearl, MS. Largely based on the report provided by Mr. Wong. He collaborated with a local firm Wyset and Associates, in designing and constructing the project.

In my present capacity, I have initiated discussion between Mr. Wong and the University President regarding our need for a necropsy facility and possibly a diagnostic lab. This statement is provided to attest my confidence in Mr. Wong's considerable expertise.

Considering the special requirements of such facilities, I believe ED2 International is uniquely suited for such an endeavor.

Sincerely,

Philip D. Nelson

Philip Nelson, DVM, PhD
Dean
College of Veterinary Medicine
Western University of Health Sciences

309 E. Second Street • Pomona, California 91768-1024 • www.westernu.edu

30 Projects in 30 Years & Letter of Recommendation from 3 School of Veterinary Medicine Deans

ED2 international



UNIVERSITY OF CALIFORNIA, DAVIS

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UNIVERSITY OF CALIFORNIA
(530) 752-1300
FAX (530) 752-2805

July 25, 2003

To Whom It May Concern:

For over twenty-five years, the School of Medicine and the School of Veterinary Medicine have utilized the Planning, Architectural and Interior Design services of ED2 International. Three deans of the School of Veterinary Medicine have had the opportunity to work with their firm on numerous projects. The following is a listing of ED2 commissions on the Davis and Sacramento campuses, many of which involved the School of Veterinary Medicine.

1. Barn N4 Large Animal Surgery Suite Alterations
2. California Animal Health & Food Safety Central Valley Laboratory Program, Tulare, CA
3. California Animal Health & Food Safety Central Valley Laboratory Program, Tulare, CA
4. California Dairy Technology Center Program, Tulare, CA
5. California Regional Primate Research Center Planning Guide
6. Center for Comparative Medicine
7. Central Plant Expansion Parts 2 and 3
8. Cole A Surgical Suite Alterations
9. Environmental Services Facility (Hazardous Material Handling Facility)
10. Engineering Unit II Value Engineering
11. Equine Analytical Chemistry & Development Laboratory Program
12. Fresno County Veterinary Diagnostic Laboratory Systems
13. Food and Agriculture Science Alterations
14. Food Science and Technology Building Alterations
15. Hunt Hall Office and Classroom Program Study
16. Hunt Hall Agronomy and Vegetable Crop Laboratory Alteration Program
17. Kearney Agriculture Center, Parlier, CA
18. Large Animal & Beach Avian Maximum Containment Vivarium Programs
19. Mark Hall Master Plan, Alterations and Interior Design
20. Primate Center Modular Laboratory Building
21. Primate Quarantine Facility
22. San Bernardino Veterinary Diagnostic Laboratory Alterations
23. School of Medicine Radiological Alterations, Sacramento, CA
24. School of Medicine Research Building III, Sacramento, CA
25. Thurman Veterinary Diagnostic Laboratory
26. Toxic Pollutant Health Research Laboratory (BSL-2 Maximum Containment Building)
27. Veterinary Medicine Teaching Hospital Upgrade Study
28. Veterinary Medicine Unit II Cancer Laboratory Addition
29. Veterinary Medicine Unit III Master Plan Study and Preliminary Project Program
30. Wildlife and Fisheries Biology Program

On all of the above projects, Mr. Peter W.T. Wong was the Principal-in-Charge. For over twenty-five years, ED2 International has planned and designed over 150 laboratory projects and over 50 animal care projects. Mr. Wong is a well-known Veterinary Facility Planner with numerous award-winning projects. His expertise is nationally and internationally recognized.

To Whom It May Concern Page 2
June 4, 2003

In the late 70's and early 80's, ED2 International designed and completed their first project on the Davis Campus, the Toxic Pollutant Health Research Laboratory. In the mid 80's ED2 International worked with the California Veterinary Diagnostic Laboratory System to design the John E. Thurman central reference laboratory on the Davis campus and investigate the renovation improvements on the four branch laboratories in Fresno, Tulare, Tulare, and San Bernardino. In 1986, we invited Peter as the featured speaker to a meeting of the Council of Department Chairs and Directors where he presented his working paper on the planning and design of research and development facilities. In 1992, Mr. Wong assisted the school in assessing 31 existing buildings on campus and developed a plan of action to consolidate the School of Veterinary Medicine and to maintain its competitive edge in meeting and exceeding American Veterinary Medical Association, American Association for Laboratory Animal Science and American Association of Veterinary Laboratory Diagnostic accreditation requirements.

In the mid 90's, ED2 International developed a master plan for the California Regional Primate Research Center and completed the new Primate Quarantine Facility. In 1996, ED2 International completed a comparative analysis of space requirements for our Vet. Med. III project in relationship to some of the larger veterinary schools in the country - Cornell University, North Carolina State University, Colorado State University and Texas A & M University. In the late 90's ED2 International completed construction of three projects: the Environmental Services Facility, the Center for Comparative Medicine, UC Davis and the UCDMC Research Building.

Recently, ED2 International has assisted us in the program development and conceptual designs of the two new CAHPS Central Valley Laboratories in Tulare and Tulare. They also worked on plans for a sustainable California Dairy Technology Center (CDTC) on a 108-acre site adjacent to the Veterinary Medical Teaching & Research Center (VMTRC), in Tulare.

Mr. Wong has lectured and consulted at a number of schools of medicine, such as the University of Chicago Medical Center, University of Nevada, Reno Medical Center, Stanford Medical Center, and three medical centers for the University of California system. He has lectured and consulted at a number of schools of veterinary medicine including Michigan State University, Mississippi State University, University of Minnesota, University of Pennsylvania, Texas A & M, and the University of Wisconsin. ED2 International under Mr. Wong's leadership has planned a number of equine centers and campus master plans in the states and abroad especially in China and Japan. Recently, through a referral from our campus, ED2 International has completed the Paul Hunter Veterinary Medical Center, the world's largest zoo hospital for the San Diego Wild Animal Park and has master planned the Center for the Reproduction of Endangered Species, in Escondido.

When it comes to bio-diverse animal care facilities for companion animals, equine, food animals, wildlife and zoological animals, ED2 International has been in the forefront in advocating, planning and executing state-of-the-art facilities. They have completed many attractive, functional, flexible, secured, interactive and site-appropriate facilities. Based on our past experience working with them, they are exceptional architects in the veterinary-planning field and one of the top five laboratory planning firms in the United States. ED2 International is a truly visionary, innovative and talented planning firm that has served our university well for almost three decades.

Respectfully,

Benjie L. Osburn

Benjie L. Osburn, Dean

Frederick A. Murphy

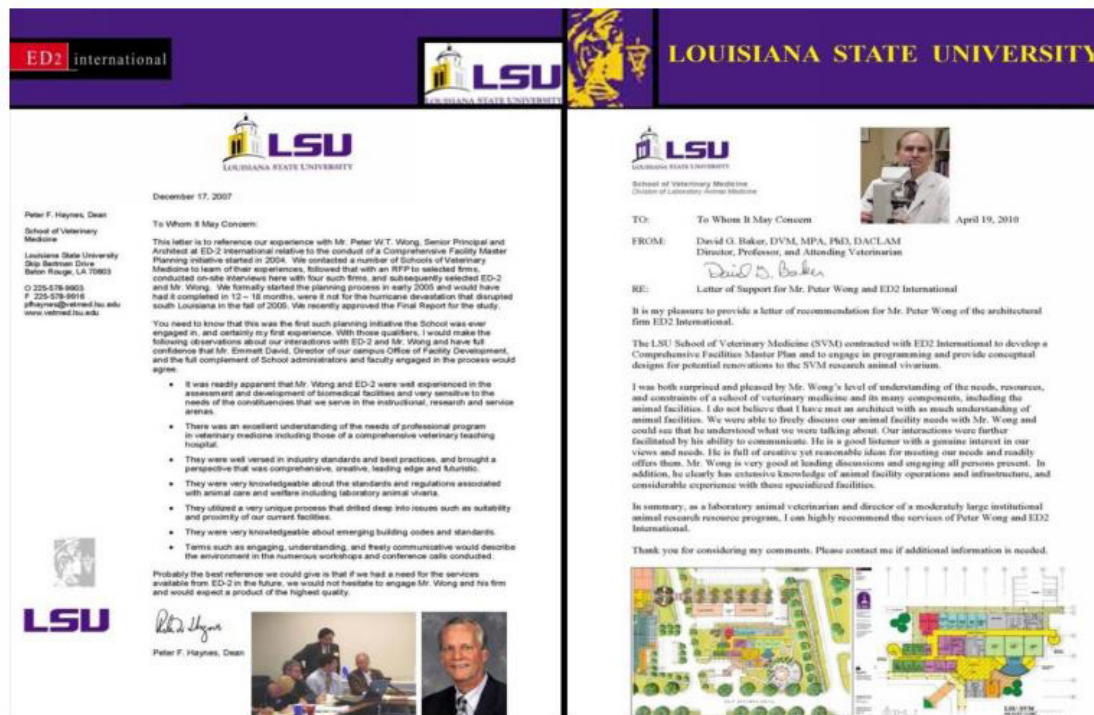
Frederick A. Murphy, Dean Emeritus

Edward A. Rhode

Edward A. Rhode, Dean Emeritus

3. TEAM INFORMATION

Reference Letters



3. TEAM INFORMATION



November 4, 2003

To Whom It May Concern:

This is a letter of recommendation for ED2 International, Architects and Planners, pertaining to their work the past 12 years with us for the San Diego Zoo Wild Animal Park Veterinary Medical Center, Escondido, California. ED2 International provided full design services for the Zoological Society of San Diego (ZSSD) and we are very happy with their performance. Prior to selecting the project design team, the ZSSD selection committee visited a number of ED2's facilities and spoke with the staff and users. Largely due to their great track record, ED2 was chosen unanimously.

In 1991, ED2 International in association with a local firm, Tucker, Sadler and Associates, was commissioned to perform site analysis, site selection and master planning services for a new research and veterinary services facility, as well as provide a justifiable detailed project program, an overall cost plan, and a case study of 25 comparable North American zoo facilities. A complete conceptual design was developed for the Conservation Research Veterinary Medical Center (CRVMC) at the San Diego Zoo Wild Animal Park. Our facility is extremely bio-diverse and the original master plan is for a CRVMC complex that includes six building program components and extensive site development:

- Paul Harter Veterinary Medical Center
- Infant Rearing Facilities
- Animal Quarantine Facilities
- Animal Service Center
- Center Support and Office Facilities
- Center for the Reproduction of Endangered Species (CREES)

In 1996, ED2 International started the Schematic Design Phase for the Paul Harter Veterinary Center. In 1997, the Design Development Phase was completed with their involvement in developing a thorough Equipment Program with fixed and movable equipment specifications, recommendations and in place cost projections. The ED2 International team has provided 1/4" enlarged composite CAD drawings complete with all the architectural, mechanical, plumbing, electrical and telecommunication outlines, equipment and casework layouts, specialized details, interior doors and finish schedules, interior elevations for all rooms and spaces. The project's Construction Documentation Phase began in the fall of 1997 and construction of the Paul Harter Veterinary Medical Center commenced in April 1998 and we took beneficial occupancy in December 2000.

We are most impressed with all the members of ED2 International's assigned project team. Mr. Peter W.T. Wong, Principal Architect and Veterinary Facility Planner leads the team and possesses over 30 years of experience. In that time he has worked on over 50 animal care facilities. He is nationally and internationally recognized as an expert in the planning and design of veterinary medical centers.

In 1991, Peter and I were joint presenters at the American Association of Zoo Veterinarians Conference in Oakland, California, where we discussed the planning and design of zoo animal hospitals. He was the designer for the Veterinary Diagnostic Laboratory at my alma mater, the University of Minnesota, St. Paul. He has worked on 30 facilities at the University of California, Davis campus including the upgrade of the Veterinary Medical Teaching Hospital and the planning of the university's new School of Veterinary Medicine. I also understand that Peter has consulted on a number of projects. A select list includes new animal care facilities at South Dakota State University, Brookings, South Dakota, at Mississippi State University, Starkville, Mississippi, at Texas A&M at Stephenville, Texas and at the Nippon Veterinary College in Tokyo, Japan.

Ms. Ron Lane and Ms. Diane Anthony Taylor serve as project programmers and both are extremely organized and knowledgeable in their craft. Diane has worked previously as an administrator at an animal hospital for 12 years, and was the designer-in-charge of an award winning animal hospital in Florida.


Mr. Lin Aguirre Chong, project manager and CAD/CAM coordinator, is instrumental in establishing the layout of all the detailed base plans. She is thorough and accurate in her coordination with all members of the design team. Mr. Philip Ong, Senior Architect and Technical Coordinator, is a great note and beta person. He has over forty years of experience, 20 years at ED2. Phil pays great attention to detail, is very knowledgeable of safety concerns, equipment specifications and cost projections, and has the ability to listen and translate the client's needs into detailed drawings which he clearly presents for review at planning workshops.

In working with ED2 International, you will find that they are a well-managed group of experienced and cooperative people. They listened intently, investigated and compared a number of alternatives, combine and incorporate the best ideas, and are technically well versed, offering cost effective solutions for safe and humane state-of-the-art facilities.

There are architectural and planning firms who have experience designing pet animal hospitals, human hospitals, laboratories and high-tech facilities. ED2 International has experience in those building types as well. But if a potential client seeks a consultant who is knowledgeable in planning and implementing a world-class and sustainable zoological veterinary medical center, ED2 International is uniquely qualified to build this type of facility.

ED2 International is a pleasure to work with and I recommend them highly. If there are any questions or concerns regarding their qualifications and abilities, please do not hesitate to call me at (760) 293-5405 or email me at jwesterham@sandiegozoo.org.

Sincerely,


John E. Westerham, DVM
Principal Veterinarian
San Diego Zoo Wild Animal Park, Escondido, CA

cc: David Rice, FALA



ED2 International
Kansas State University
Manhattan, KS



April 14, 2010

To Whom It May Concern:

It is a pleasure to write a letter supporting the activities of Mr. Peter Wong and ED2 International Architects and Planners with regard to the development and design of animal care and agricultural research facilities. I had the opportunity to work with Mr. Wong on two major projects at South Dakota State University. The first project was the renovation/rebuilding of the Animal Disease Research and Diagnostic Lab and the development of a research component within the diagnostic lab. In the second project, he assisted with the construction design of a new animal care facility to conduct research on small and farm animals, primarily swine. In addition, I have visited the agricultural research teaching facilities that ED2 International Architects and Planners have developed.

On the above projects, Mr. Wong's role was not as the architect, but as a consultant to a local architect. I truly believe that we maximized the ability and knowledge base of Mr. Wong and his firm. I would strongly encourage anyone to use his firm as the architect on a project knowing that the knowledge he has regarding the needs of an animal care facility as well as the required rules and regulations.

Currently at KSU, ED2 International is working with us on a 2-phased bio-diverse research vivarium complex. The Phase 1 Animal Resources Facility Relocation involved six new BSL-1 and BSL-2 Large Animal and flexible canine/porcine research buildings and full site utilities and infrastructure development to be completed this fall on a remote 40-acre site to make room for the new National Bio-Agro Defense Facility project.

The Phase 2 Large Animal Research Center (LARC) Expansion involved a 3-building additions to the west, in providing BSL-2 Enhanced livestock disease isolation for Porcine, Bovine and Canine research vivaria with necropsy, liquid effluent heat treatment and Alkaline Hydrolysis Tissue Digester Suites to achieve state-of-the-art research facilities.

ED2 International as the Veterinary Facilities Planner for this important 2-phased project, were instrumental in facilitating focus group programming interviews, benchmarking comparable facilities of peer institutions and generating concepts and layouts in charrette design workshops to



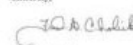
April 14, 2010
Page Two

address proper animal care, environmental enrichment, bio-containment, bio-security and AAALAC accreditation expertise to the overall planning process. Dr. Ralph C. Richardson, DVM, Dean, KSU-CVM, Dr. Kerry Taylor, DVM, MS, DACLAM, Assistant VP for Research (AC) & Director, Comparative Medicine Group and Dr. Jerry P. Jans, DVM, ACLAM, Associate Vice President for Research Compliance and University Veterinarian were key stakeholders working with ED2 International and the Treasurer/McCowan/GORDON team. Mr. Peter W.T. Wong, RA, Senior Principal and Mr. Kenneth W. Young, RA, Senior Project Architect were key ED2 participants leading the discovery, program validation, conceptualization and realization phases of the project.

Additionally, Mr. Wong has provided counsel on contacts to aid us in becoming more familiar with the rules and regulations on animal care and animal research facilities. He also assisted in the identification of potential funding sources to help us support these units.

I have a great deal of respect for Mr. Wong, his technical skills, and his ability to work with a wide range of audiences relative to agricultural, animal care and animal research facilities. If you have specific questions, please feel free to contact me at 785-532-7566 or e-mail fchodick@ksu.edu.

Sincerely,


Fred A. Chodick
President & CEO



4. RELATIVE TEAM PROJECT EXPERIENCE

SECTION

4

Diagnostic Center for Population Animal Health | Lansing, MI

TITLE AND LOCATION (City and State)		YEAR COMPLETED	
DIAGNOSTIC CENTER FOR POPULATION ANIMAL HEALTH		PROFESSIONAL SERVICES	CONSTRUCTION (If applicable)
Michigan State University/Michigan Division of Natural Resources & State Veterinarian Lansing, MI		Architectural Lab Consultant to HED	2006 and Renovated 2012
PROJECT OWNER'S INFORMATION			
PROJECT OWNER	POINT OF CONTACT NAME	POINT OF CONTACT TELEPHONE NUMBER	
Michigan State CVM, MI Depts. of National Resources & Agriculture & State Vet. Office	Dr. Willie M. Reed, DVM, PhD, Current Dean at Purdue University SVM	(765) 426-0231 Cell (765) 494-7608 Direct	

BRIEF DESCRIPTION OF PROJECT AND RELEVANCE TO THIS CONTACT (Include scope, size, and cost)

Services Provided: Laboratory Programming, Planning and Design
Size: 153,000 OGSF (Largest Veterinary Diagnostic Center in U.S.)
Cost: \$58 Million



Scope:

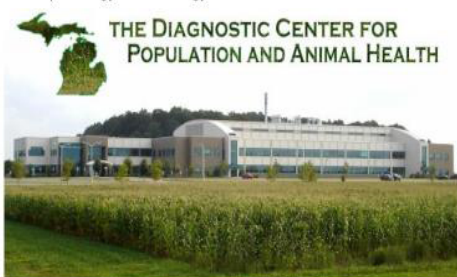
Located on a 16-acre site remote from the campus core, the facility is the largest veterinary diagnostic laboratory in the United States, totaling 153,000 OGSF. This two-story complex consists of a mechanical basement, four outbuildings, top-loading incinerators, and bio-containment laboratories for the testing, detection, analysis and control of infectious diseases and consolidates the State Depts. of Nat. Resources & Agriculture, State Veterinarian offices, and Michigan State University under one roof. The primary mission is to identify, solve, and prevent disease problems.

The state-of-the-art laboratories seek to:

- Identify infectious diseases quickly to prevent their spread and minimize animal losses.
- Define chemical and toxic contaminants that may threaten animal and human health.
- Diagnose metabolic and nutritional diseases.
- Provide an early warning system for impending epidemics.
- Develop a strategic action plan to control and eradicate potential outbreaks of livestock diseases.
- Apply research in livestock health management, invent new interdisciplinary laboratory procedures and instrumentation.
- Recognize and disseminate new knowledge.
- Train veterinary students, veterinarians and veterinary technicians in the problem solving approach to disease diagnosis.

Working in association with Harley Ellis Design, local prime architects, Dr. Willie M. Reed, Executive Director of DCPAH & Dean Lonnie King, the new complex was organized with 14 laboratory sections:

- 1) Bacteriology/ Mycology/ Microbiology.
- 2) Bio-containment Facility (ARS/USDA BSL-3 Ag. TB microbiology lab & Large Mammalian Necropsy suites).
- 3) Computing/ Multimedia and Telecommunication Services.
- 4) Decontamination/ Washing/ Sterilization/ Clean Plastic/ Glassware Storage and Media Preparation.
- 5) Endocrinology.
- 6) Epidemiology.
- 7) Histopathology & Immuno-histo-chemistry.
- 8) Molecular Diagnostics.
- 9) Parasitology/ Clinical Pathology.
- 10) Pathology/ Necropsy. The pathology/ necropsy section is served by 3 high bay necropsy suites with monorail, hoists and ceiling mounted hose reels for special medical gases, industrial water, electrical and telecommunication drops for various post-mortem examination.
- 11) Serology/ Immuno-diagnostics (PCR Prep., Amplification, Detection Labs).
- 12) Specimen Receiving/ Sample Sorting/ Unpacking/ Data Entry.
- 13) Toxicology/ Nutrition
- 14) Virology/ Immunology



Design Charette

Contaminated Loading

BSL-3 Labs

BSL-3 Mammalian Necropsy

Avian Necropsy

Analytical Robots

Wildlife Necropsy

FIRMS FROM SECTION C INVOLVED WITH THIS PROJECT

FIRM NAME	FIRM LOCATION (City and State)	ROLE
ED2 International, Architects & Planners	San Francisco, CA	Veterinary Facilities Planners

4. RELATIVE TEAM PROJECT EXPERIENCE

Dean Morgan Junior High School Renovation | Casper, WY



NE45 Project Name:
Dean Morgan Junior High School Renovation

Owner Name:
Natrona County School District
Casper, WY

Project Reference:
Dennis Bay, Executive Director
Natrona County School District #1
970 N. Glenn Road
Casper, WY 82601
307.253.5200

Services Provided:
Programming, architectural design, construction,
administration

Size of Project in Square Feet:
172,000 sf

Project Cost:
\$16 Million

Completion Date:
2016



Dean Morgan Junior High School Renovation

Dean Morgan Junior High School is a 172,000 square foot, two story historic school that houses 850 students in grades 6 through 8. The HISTORICAL building was constructed in the early 1940's, with an addition in the mid 1960's. The building structure was in relatively good shape, but the infrastructure was outdated and unable to keep up with today's learning environments and ADA requirements (one electrical outlet per wall; no A/C; poor lighting, etc.). Since the school is located in a downtown neighborhood and essentially landlocked, students had to cross a city street to get to the playground and playing fields, which was extremely dangerous, so security and student safety were THE most important factors in the planning process and elements were put into place in the planning documents that addressed these security and safety issues.

Another factor in the project was that the school needed to remain open during construction, and the project scope and budget restrictions did not allow for all of the construction work to be performed during the summers. Ron put into place a phasing schedule that took into account the amount of money available at certain times of the year, the work to be performed in each phase, and a schedule for each phase that also included learning spaces that were to be evacuated during the phasing and options for using other areas of the building to accept the students (and administration) that were to be displaced during construction.

*Work done while with MOA Architecture as a Principal and Project Manager as well as designed in collaboration with Cuninghame Group Architects.

4. RELATIVE TEAM PROJECT EXPERIENCE

Lloyd Vet. Med. Center & Vet. Diagnostic | Ames, Iowa

TITLE AND LOCATION (City and State)		YEAR COMPLETED	
PHASE 1 - LLOYD VET. MED. CENTER & VET. DIAGNOSTIC LAB RENOVATIONS Iowa State University College of Veterinary Medicine, Ames, Iowa		PROFESSIONAL SERVICES Ph. 1 - Prime Architects - in-Association	CONSTRUCTION (If applicable) Ph. 1 - Completed 2010
PROJECT OWNER'S INFORMATION			
PROJECT OWNER Iowa State University College of Vet. Med.	POINT OF CONTACT NAME John U. Thomson, Dean Emeritus, ISU CVM	POINT OF CONTACT TELEPHONE NUMBER (515) 231-5150 Cell	

BRIEF DESCRIPTION OF PROJECT AND RELEVANCE TO THIS CONTACT (Include scope, size, and cost)

Services Provided: Master Planning of College of Veterinary Medicine, Full Services as Architects in Association with In/Vision Architecture, Des Moines, IA for Phase 1 Equine Large Animal Hospital Addition and Veterinary Diagnostic Lab BSL-3 Renovations

Size: Phase 1 = 119,000 SF

Cost: Phase 1 = \$51.05 Million Total Project Costs

Scope: Construction for Phase 1 completed October 2010



Inclusive, User Participatory Process

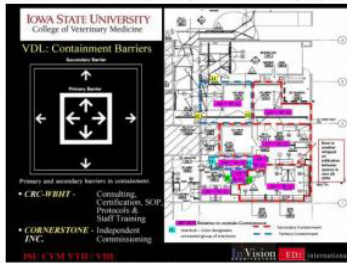
Campus-wide and local jurisdictional concerns were the product of a joint undertaking involving ISU facility project management staff, end user steering committee, design team (ED2 International/In/Vision Architecture, Firms in Association) and incorporating peer reviews. Seven programming, ten user-participatory design workshops and weekly conference calls with project stakeholders, site visits to 16 peer institutions to establish benchmarking to resolve programmatic issues and planning alternatives. ED2 International presented benchmarking of 30 peer institutional facilities for programmatic, design and cost comparisons.

Phase 1 Features: (LEED Silver Rated Development)

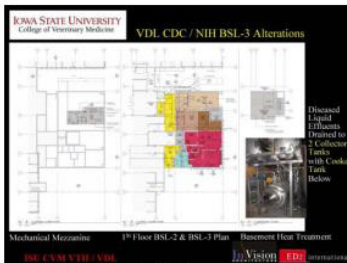
- Equine & large animal reception, waiting & receiving in an attractive, welcoming, warm and friendly public zone, 38 equine and 8 Large Animal inpatient wards and 5 equine outpatient exam and 8 holding stalls.
- ICU suite with central nurses' station; 6 adult equine wards, 1 neurology ward and 6 mare-foal wards.
- A functionally separate but attached disease Isolation wing with 7 infectious disease wards with individual anterooms per ward organized around a clean and separate contaminated alley concept.
- 4 surgery suites (3 sterile for orthopedics and internal medicine & 1 non-sterile for standing and dirty surgeries), 4 padded combination induction / recovery rooms and patient prep, transfer corridor with monorail and overhead hoists; nurses station, sterile surgery pack pass-through & waterbed storage.
- A centralized imaging center with SA & LA CT, open MRI, Nuclear Scintigraphy (bone-scan) and patient isolation, ultrasound, RF- Radiography/Fluoroscopy, PACS, digital imaging, receptionist and tech work spaces, film viewing, photo dark room and student rounds rooms per specialties.
- BSL-3 and ABSL-3 Lab, Necropsy, Loading, Holding, Euthanizing & Effluent Heat Treatment Renovations, Shower-out, Autoclave-out, Gas Decontamination-out for Vet. Diagnostic Lab
- 50 second floor faculty offices with interactive spaces & maintenance-friendly/energy-smart building systems.



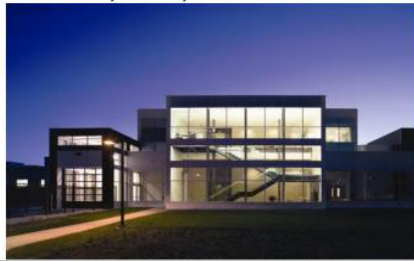
Aerial View of Lloyd Veterinary Medical Center Addition



Barriers, Air Pressurization & Directional Airflows



Mech. Mezzanine, 1st Flr. & Basement Heat Treatment



Nighttime Person-Eye View of New Lloyd VMC Addition



ISU-VDL BSL-3 Lab with Bio-safety Cabinets, Pass-Thru, Shower-Out & Sterilize-Out with Fail-Safe MEP/T Bldg. Systems

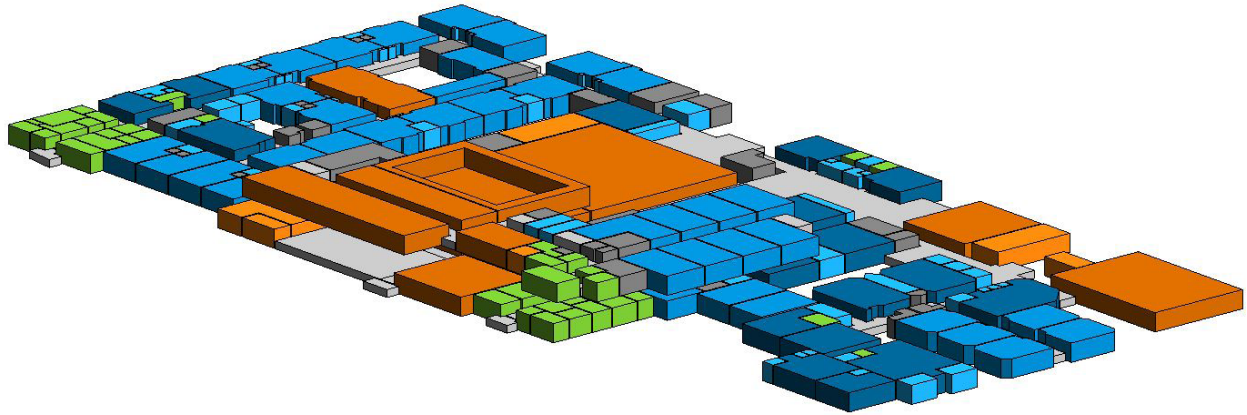


ISU-VDL BSL-3 Lab with Bio-safety Cabinets, Pass-Thru, Shower-Out & Sterilize-Out with Fail-Safe MEP/T Bldg. Systems

FIRMS FROM SECTION C INVOLVED WITH THIS PROJECT

FIRM NAME	FIRM LOCATION (City and State)	ROLE
ED2 International, Architects & Planners	San Francisco, CA	Veterinary Facilities Planners

Three Forks Public School Improvements | Three Forks, MT



2020



Through these detailed investigations it was discovered that the facility was undersized compared to size standards established by other K-12 facilities across the state of Montana, with a space deficit of approximately 47,000 square feet. NE45 will assist the district with passing a bond in the spring of 2018 after the Preliminary Architectural Report is finished.

4. RELATIVE TEAM PROJECT EXPERIENCE

KSU - CVM Master Plan & New Vet. Diagnostic Lab | Manhattan, KS

TITLE AND LOCATION (City and State)		YEAR COMPLETED	
KSU-CVM MASTER PLAN & NEW KANSAS STATE VET. DIAGNOSTIC LAB (KSVDL) Manhattan, KS		PROFESSIONAL SERVICES Consultant	CONSTRUCTION (If applicable) Completed 2012
PROJECT OWNER'S INFORMATION			
PROJECT OWNER Kansas State University College of Vet. Med. Manhattan, KS	POINT OF CONTACT NAME Dr. Ralph C. Richardson, DVM, Dean KSU-College of Veterinary Medicine	POINT OF CONTACT TELEPHONE NUMBER (785) 532-4004 P (785) 770-7679 Cell	

BRIEF DESCRIPTION OF PROJECT AND RELEVANCE TO THIS CONTACT (Include scope, size, and cost)

- Services Provided:** Master Planning, Large Animal Research Center (6-Building Complex) and the CTRCF (Stand-alone 4th Yr. Community Practice Hospital)
- Size:** 11,500 SF for CTRCF
- Cost:** \$300 Million Campus Master Plan & Phase 1 – \$6.2 Million Phase 1 & \$17.5 Million Phase 2 Large Animal Research Center (LARC) & \$10 Million – New Stand-Alone Featured Clinical Teaching Primary Care Facility (CTPCF) with Treanor Associates - Lawrence, KS
- Scope:** 20-Year Vet. School Master Plan working with all stakeholders (University and Outside Industry) with inclusive user-participatory workshops working with representatives from all six program components: Administration, Clinical, Diagnostic/Public Service, Instructional, Research Labs and Vivaria.
- 6-Building LARC working with McGOWAN-Treanor-ED2 Design-Build Team – Completed in 9 months. Renovated and Improved Academic Center, Equine/LA Hospital, Small Animal Hospital with new Hay Barn, Field Services Building, Equine Performance Evaluation Arena with Farrier Services, Treadmill and Aqua-therapy and new Clinical Teaching & Primary Care Facility anchoring the SE corner of KSU-CVM.
 - New Academic Center, Café, Bookstore, Ground Floor Dean's Office Suite and New CVM Quad/Courtyard.
 - Renovation of existing Coles Hall into a office building with floor cut-outs, open stairways and break-out spaces to foster social & professional interactions
 - New two-story KSVDL – Veterinary Diagnostic Laboratory Building with new Alkaline Hydrolysis Tissue Digester.
 - New modular/flexible Laboratories as new East and West Wing Additions to Coles Hall with Consolidated Underground Vivaria
 - New Central Co-gen Plant with expanded and organized student, faculty/staff, public and courier parking lots and screened delivery and Shipping docks, contaminated service yard, clean service yard and utilities and roadway infrastructure improvements..
 - Planning of remote expansion of the Beef Cattle Institute, the 40-acre site at the Large Animal Research Center with new necropsy and ABSL-2 Enhanced and ABSL-3 capabilities in working with infectious diseases and select agents.
 - Sustainability strategies to achieve LEED Gold Rating and certification from the US Green Building Council for all future developments are planned.
 - Upgrades of MEP/T building systems with ADA barrier-free designs, new energy management systems that has cutting edge monitoring and environmental control systems with fully-sprinkled buildings that are equipped with redundant systems for fire, smoke, life safety with proper directional airflows, zoning, filtration and fail-safe systems for bio-containment and bio-security.
 - A phased development that balances aesthetics, functional and place-making opportunities that establish KSU-CVM into one of the top-tier CVM .



KSU-CVM Illustrative 20-Year Master Plan

- **Renovated Mosier Hall**
 - 2nd Flr. Research Labs, Lab Support & Offices
 - Equine/LA Hospital & Small Animal Hospital
- **Renovated Trotter Hall with Additions**
 - New Academic Center & CVM Quad
 - New Central Plant / Covered Equine Arena
- **Renovated Coles Hall / New East & West Wings**
 - Research Labs, Vivaria & Office Renovations
 - Bio-Swale / Lake & Pedestrian Entry Arcade



KSU-CVM New KSVDL – First Floor Plan



2nd Floor Plan



KSU-CVM Large Animal Research Center – Aerial of 6-Building Complex - Hoofstock Pens & Livestock Holding Stalls with Headgates & Flexible Porcine/Canine Vivaria with Central Cage Washing & Sterilization

FIRMS FROM SECTION C INVOLVED WITH THIS PROJECT

FIRM NAME	FIRM LOCATION (City and State)	ROLE
ED2 International, Architects & Planners	San Francisco, CA	Veterinary Facilities Planners

4. RELATIVE TEAM PROJECT EXPERIENCE

Beaverhead County High School Improvements | Dillon, MT



NE45 Project Name:

Beaverhead County High School Improvements

Owner Name:

Natrona County School District
Casper, WY

Project Reference:

Gary Haverfield, Dillon Superintendent
104 North Pacific Street
Dillon, MT 59725
406.683.2361

Services Provided:

Programming, Feasibility, Architecture, Civil, Structural, MEP, ADA Upgrades and Elevator Addition, full construction documents and construction.

Size of Project in Square Feet:

34,000 sf - New Construction
14,000 sf - Renovation

Project Cost:

\$10M

Completion Date:

2020



Beaverhead County High School Improvements

NE45 Architecture was recently selected for updating all three buildings for Beaverhead County High School located in Dillon, MT. The project will need to meet codes, safety concerns, space constraints and improve the aging structures. These improvements will enhance the needs of the students, teachers and community.

The design for the Main Historic Building (1938) will add an accessible entrance to the front of the building, upgrade bathrooms, add a main level student commons and teacher work rooms, abandon the non-conforming partial basement and reorganize the administrative spaces/ classrooms.

B.W. Lodge gymnasium will add a new structure to its east side including a new music facility, a multipurpose cardio/ wrestling room and a weight room. Within the existing footprint of the building, guest locker rooms, updated rest room facilities and other associated storage reorganization will be done.

The existing Vo-Ag and wood shop will be replaced with a new facilities, in addition to a connected science facility for all science classes that will share new technology, mechanical ventilation systems and a greenhouse to enhance the science and Vo-Ag programs.

Other additions to the complex include parking lots, sidewalks and a safe cross walk at Atlantive Street as well as other associated landscape features.

4. RELATIVE TEAM PROJECT EXPERIENCE

Vet. Med. III College of Vet. Med. Master Plan & VMTH

TITLE AND LOCATION (City and State) VET. MED. III COLLEGE OF VET. MED. MASTER PLAN & VMTH RENOVATIONS University of California, Davis – College of Veterinary Medicine	YEAR COMPLETED	
	PROFESSIONAL SERVICES	CONSTRUCTION (If applicable)
	Master Plan & Design 30 Buildings in 30 Yrs.	Vet. Med. 3A & 3B Completed 2012

PROJECT OWNER'S INFORMATION		
PROJECT OWNER Regents of the University of California UC Davis – School of Vet. Med.	POINT OF CONTACT NAME Mr. James M. Fong, AIA, AICP UCD Sr. Architect, Office of Architects & Engineers	POINT OF CONTACT TELEPHONE NUMBER (530) 304-1414 C (530) 752-1956 P

BRIEF DESCRIPTION OF PROJECT AND RELEVANCE TO THIS CONTACT (Include scope, size, and cost)

Services Provided: Master Planning, Existing Facilities Assessment, Needs Assessment, Preliminary Project Planning Guide and Full Design Services

Size: 750,000 GSF

Cost: \$255 Million

Project Relevance:

- Existing facilities audit & assessment of 31 buildings based on AVMA's 11 essentials for accreditation requirements. Suitability & Proximity forms were custom designed for assessment by all stakeholders.
- Comparative quantitative statistical analysis of peer institutions (Cornell University, North Carolina State University, Colorado State University, Texas A & M University and Ohio State University).
- Preliminary Facilities Program & Illustrative Master Plan to consolidate SVM at the West Health Sciences Complex.

Planning Concept & Features:

AVMA accreditation assessment of 31 existing SVM buildings to evaluate, relocate and consolidate administrative, educational, research and public service programs into a new west health center complex. ED2 worked closely with 52 research groups to complete the assessment and lobbied U.S. Senator Maddy's office to secure state funds to address physical inadequacies, thereby ensuring accreditation and upholding the academic excellence of the School. The new 23-building complex houses the departments of animal biology; animal health and disease diagnostics, prevention and treatment; the infrastructure upgraded of the informatics/computer center; the integrated imaging technology center; and comparative and production medicine. Scope consists of preliminary facilities program, illustrative master plan totaling 750,000 SF, vehicular access and freeway approach to the site, and preservation of the campus arboretum and natural surrounds.








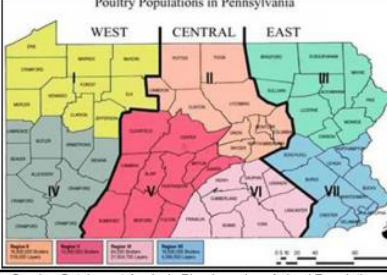
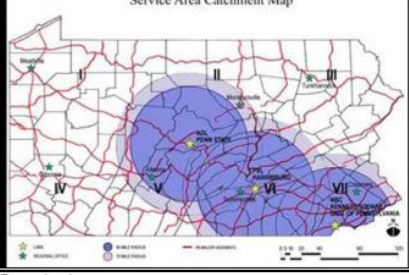
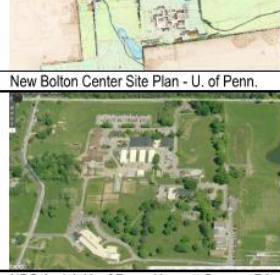


FIRMS FROM SECTION C INVOLVED WITH THIS PROJECT

FIRM NAME	FIRM LOCATION (City and State)	ROLE
ED2 International, Architects & Planners	San Francisco, CA	Veterinary Facilities Planners

4. RELATIVE TEAM PROJECT EXPERIENCE

PADLS BSL-3 Vet. Diagnostic Lab Additions | Kennett Square, PA

TITLE AND LOCATION (City and State) PADLS BSL-3 Veterinary Diagnostic Lab Additions (PVL) Harrisburg, (ADL) University Park and (NBC) Kennett Square, PA		YEAR COMPLETED PROFESSIONAL SERVICES Programming & Concept. Design		CONSTRUCTION (If applicable) Programming 2003 Completion 2008	
PROJECT OWNER'S INFORMATION					
PROJECT OWNER Pennsylvania Animal Diagnostic Lab System		POINT OF CONTACT NAME Dr. John I. Enck, VMD Resident Director, Penn. State Univ.		POINT OF CONTACT TELEPHONE NUMBER (814) 863-3882 P	
BRIEF DESCRIPTION OF PROJECT AND RELEVANCE TO THIS CONTACT (Include scope, size, and cost) Services Provided: Programming Case Studies, Needs Assessment, and Justification for BSL-3 Additions for each lab in PADLS System. Cost: \$ 13.5 Million each Project Relevance: <ul style="list-style-type: none"> Working with all three veterinary diagnostic laboratories and their respective Resident Directors to add BSL-3 Capabilities to each PADLS laboratories. Lab sections consist of analytical chemistry, bacteriology, electron microscopy, Immuno-Histo-chemistry (IHC), immunology/mycology, molecular diagnostics, pathology, parasitology, serology, toxicology and virology. BSL-3 additions included necropsy and lab suites with shower-out, autoclave-out, gas-sterilization out with redundant fail-safe MEP/T systems with HEPA filtration, negative directional airflows, computerized energy management systems and emergency power, clean power and uninterrupted battery power for the computerized LIMS systems. In addition to AAVLD accreditation compliance, the BSL-3 and ABSL-3 facilities shall meet and exceed CDC/NIH BMBL Guidelines with Bio-safety Cabinets, monorail and hoists systems with top-loading Alkaline Hydrolysis Tissue Digester and Pathological Incinerator technologies and latest trends in robotics instrumentation, durable finishes and maintenance-friendly building equipments integrated with proper protocols, staff training and improved turnaround time for testing. Dr. John I. Enck commissioned ED2 International to consult with PADLS when he was the State Veterinarian. We had the pleasure of working with Dr. Enck as he became the Resident Director of the ADL for Penn. State University; University Park, PA; with Dr. Helen Ackland, DVM, was and is still the Resident Director for PVL at Harrisburg and Dr. Robert J. Eckroade, DVM was the original Resident Director for the NBC for University of Pennsylvania. Dr. Sherrill Davison, DVM became the new NBC Resident Director in planning of future facilities. 					
<div style="display: flex; justify-content: space-around;"> <div>  <p>Logos</p> </div> <div>  <p>PVL, Harrisburg, PA Plans</p> </div> <div>  <p>Pennsylvania Veterinary Lab Aerial, Harrisburg, PA</p> </div> <div>  <p>ADL Person-Eye View, Penn. State Univ.</p> </div> </div>					
<div style="display: flex; justify-content: space-around;"> <div>  <p>Animal Populations in Pennsylvania</p> </div> <div>  <p> P*A*D*L*S <ul style="list-style-type: none"> ADL (Animal Disease Lab) Penn. State University NBC (New Bolton Center) University of Pennsylvania PVL (Pennsylvania Veterinary Lab) Harrisburg, PA </p> </div> <div>  <p>Animal Disease Lab Aerial, Penn State Univ.</p> </div> </div>					
<div style="display: flex; justify-content: space-around;"> <div>  <p>Poultry Populations in Pennsylvania</p> </div> <div>  <p>Service Area Catchment Map</p> </div> <div>  <p>New Bolton Center Site Plan - U. of Penn.</p> </div> </div>					
<div style="display: flex; justify-content: space-between;"> <div>Service Catchment Analysis Plan based on Animal Populations in Pennsylvania</div> <div>NBC Aerial, U. of Penn, Kennett Square, PA</div> </div>					
FIRMS FROM SECTION C INVOLVED WITH THIS PROJECT					
FIRM NAME ED2 International, Architects & Planners		FIRM LOCATION (City and State) San Francisco, CA		ROLE Veterinary Facilities Planners	

4. RELATIVE TEAM PROJECT EXPERIENCE

Wise Center Facilities Assessment & MVRDLS MP | Starkville, MS

TITLE AND LOCATION (City and State)		YEAR COMPLETED	
WISE CENTER FACILITIES ASSESSMENT & MVRDLS MASTER PLAN (5 EXISTING LABS & 2 NEW FULL-SERVICE VET. DIAGNOSTIC LABS) Mississippi State University, Starkville, Mississippi		PROFESSIONAL SERVICES Prime Architect	CONSTRUCTION (If applicable) 1997 to Present
PROJECT OWNER'S INFORMATION			
PROJECT OWNER Mississippi State University College of Vet. Medicine, Starkville, MS		POINT OF CONTACT NAME Phillip D. Nelson, DVM, PhD Dean, Western University of Health Sciences College of Vet. Med.- Pomona, CA	
		POINT OF CONTACT TELEPHONE NUMBER (909) 996-8469 Cell (909) 469-5661 Direct	

BRIEF DESCRIPTION OF PROJECT AND RELEVANCE TO THIS CONTACT (Include scope, size, and cost)

Services Provided: Master Planning, Programming & Assessment

Size: 50,000 OGSF

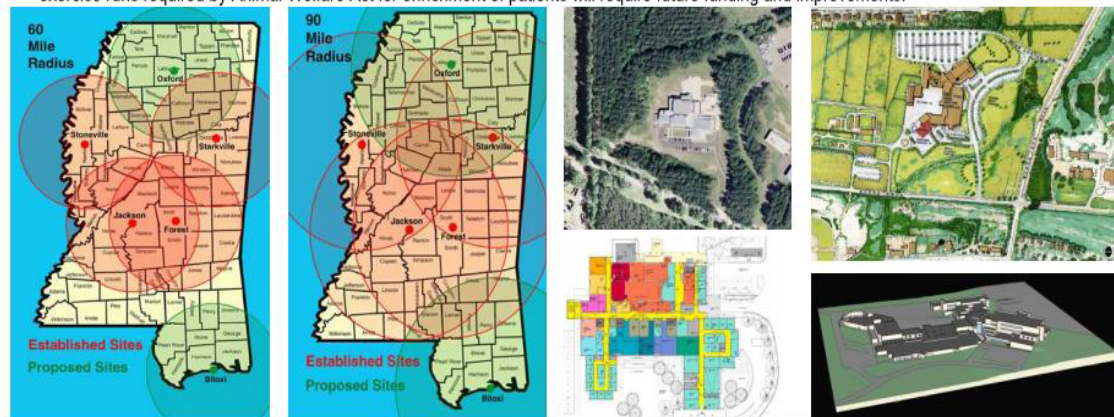
Cost: \$50 Million

Scope:

In 1997, The management of the Mississippi Veterinary Diagnostic Laboratory System was being planned to be turned over to the direction of Mississippi State University, Starkville, MS. The new dean of the College of Veterinary Medicine, Dr. John U. Thomson, commissioned ED2 International to review the various branch laboratories within the system including existing facilities at Jackson, Laurel, Rankin County, Stoneville and Starkville, MS.

As the result of ED2's Assessment report and recommendations, funding was procured and a new Central Reference Veterinary Diagnostic Lab was developed at Pearl, MS on 16-acre Dept. of Agriculture land for a new 46,000 OGSF building with BSL-3 bio-containment facilities to address infectious pathogens which can test, detect, prevent and control potential epidemics that can negatively affect the state's livestock / food animal populations and address homeland security / bio-terrorism issues. This new facility will replace the Laurel and Rankin County Avian Diagnostic Labs and the obsolete Jackson lab which was situated in a deteriorating neighborhood with encroaching residential development which were downwind from a failing side-loading pathological incinerator which was unsecured and which had difficulties with permitting to meet USEPA guidelines. Security break-ins and homeless persons using the dilapidating outbuildings which housed legal records as shelters were creating a fire hazard and workflow conflicts in the poor layouts of the existing building called for a total replacement and consolidation of 3 existing laboratories. The Stoneville Lab would be maintained and future transfer stations at Biloxi & Oxford will be needed. An illustrative Wise Center Master Plan was drawn to address physical and deferred maintenance deficiencies.

At Starkville, we highlighted life safety, environmental safety and potential AVMA and AAALAC accreditation problems for the various outbuildings for animal housing and care. We suggested the replacement of the Equine Isolation Building which did not have proper bio-containment or bio-security capabilities. We suggested replacement of flooring finishes at the large animal and equine teaching hospital. We suggested the installation of a top-loading Alkaline Hydrolysis Tissue Digester to replace the aging pathological incinerator for the VDL. The new expensive homes at Sherwood Forest downwind from the incinerator caused concerns in terms of maintaining a good neighbor policy. A new CBARC, Consolidated Biomedical Animal Resources Center for lab animals were identified. Anticipating pharmacy law changes requiring Sterile Compounding, new spaces needed for IHC and Immuno-diagnostics will need to be planned. Overcrowding at the Animal Health Center and exercise runs required by Animal Welfare Act for enrichment of patients will require future funding and improvements.




FIRMS FROM SECTION C INVOLVED WITH THIS PROJECT

FIRM NAME	FIRM LOCATION (City and State)	ROLE
ED2 International, Architects & Planners	San Francisco, CA	Veterinary Facilities Planners

4. RELATIVE TEAM PROJECT EXPERIENCE

New Maddy Equine Racing Chemistry & Dev. Lab. | Davis, CA

TITLE AND LOCATION (City and State)		YEAR COMPLETED	
NEW MADDY EQUINE RACING CHEMISTRY & DEVELOPMENT LABORATORY University of California, Davis, CA		PROFESSIONAL SERVICES Programming & Concept. Design	CONSTRUCTION (If applicable) Completion 1996 & Renovated 2009
PROJECT OWNER'S INFORMATION			
PROJECT OWNER University of California, Davis, CA Calif. Animal Health & Food Safety Lab System	POINT OF CONTACT NAME Dr. Alex A. Ardans, DVM Executive Director Emeritus, CAHFS	POINT OF CONTACT TELEPHONE NUMBER (530) 758-9191	
BRIEF DESCRIPTION OF PROJECT AND RELEVANCE TO THIS CONTACT (Include scope, size, and cost)			
Services Provided: Master Planning, Detailed Project Program, Assessment, Justification & Conceptual Design			
Cost: \$ 6.1 Million			
Project Relevance:			
<ul style="list-style-type: none">State-of-the-art racing chemistry diagnostics laboratory serving the State of California.Lab testing to detect, confirm and monitor pari-mutuel horse races to prevent cheaters from winning and losing by using illegal chemical substances to enhance or to hamper performance.Lab sections consists of analytical organic, inorganic chemistry and toxicology forensic investigators using the latest thin-slice extraction, immuno-assay, high pressured liquid chromatography and gas chromatography technology combined with mass spectrometry instrumentation, atomic absorption and ICP/MS, Induced couple plasma / mass spectrometry.			
Design Concept & Features:			
Programming and conceptual design services for an analytical and service laboratory devoted to quality control in the horse racing industry. Facilities totaling 30,000 SF include chemistry laboratories for sample receiving TLC, GC/MS, LC/MS, MS/MS, and immuno-assays; toxicology laboratories for automatic absorption; and inductive coupled plasma units for horse racing, food and environmental testing, screening and verification. Security and access control features of maintaining chain of custody and validation of data are major programmatic concerns.			
			
FIRMS FROM SECTION C INVOLVED WITH THIS PROJECT			
FIRM NAME ED2 International, Architects & Planners	FIRM LOCATION (City and State) San Francisco, CA	ROLE Veterinary Facilities Planners	

4. RELATIVE TEAM PROJECT EXPERIENCE

LSU SVM Comprehensive Facilities MP & Laddl | Baton Rouge, LA

TITLE AND LOCATION (City and State)	YEAR COMPLETED	
	PROFESSIONAL SERVICES	CONSTRUCTION (If applicable)
LSU SVM COMPREHENSIVE FACILITIES MASTER PLAN & LADDL Louisiana Disease Diagnostic Lab, LSU, Baton Rouge, Louisiana	Master Plan 2008 LADDL 2012	N/A

PROJECT OWNER'S INFORMATION		
PROJECT OWNER Louisiana State University SVM	POINT OF CONTACT NAME Dr. Peter F. Haynes, DVM, Dean	POINT OF CONTACT TELEPHONE NUMBER (225) 578-9903 Direct

BRIEF DESCRIPTION OF PROJECT AND RELEVANCE TO THIS CONTACT (Include scope, size, and cost)

Services Provided: Master Planning, Programming & Design Peer Review for School of Vet. Med. – New Equine/LA Entrance & Disease Isolation Addition

Size: 50,000 OGSF

Cost: \$40 Million

Scope: Master planning services for the LSU School of Veterinary Medicine which include the following tasks:

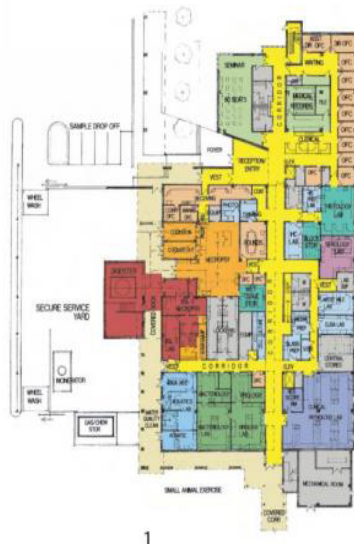
- Existing facilities assessment and FRRM, Facilities Resources Renewal & Management Audit
 - AVMA, AAHA, AAALAC, AAVLD & AORC accreditation
 - Fire and life safety upgrade - Accessibility compliance
 - Programmatic upgrade
 - Building systems and infrastructure upgrade
 - Remedial maintenance and repairs
- Conceptual designs
- Cost planning / benchmarking and cost modeling
- Comparisons with peer institutions
- Funding procurement projections
- Project components:
 - VCS / VTH (Small & LA Hospital / Rehabilitation /Imaging / Specialty Clinics)
 - New Louisiana Disease Diagnostic Lab (LaDDL), new stand-alone VDL (Public Service / Diagnostics Lab with Alkaline Hydrolysis Tissue Digester)
 - DLAM, Division of Laboratory Animal Medicine - IAUC (Vivaria) – New Rooftop Consolidated Biomedical Animal Resources Center
 - Hanson's DHHS Leprosy Disease Research laboratory tenants and surge spaces for new faculty members
 - Upgrade of teaching labs, surgery and classroom facilities
 - Equine Reproduction, Performance & Testing Center, Farrier Services & Equine Disease Isolation Building.
 - Administrative, Reception, Waiting, Medical Records Areas (Management & Access Control)
 - Equine Field services - CBS, Comparative Biomedical Sciences & PBS, Pathobiological Sciences, Research Programs & NIH funded facilities
 - Theriogenology clinic serving companion, exotics, large food animal & equine animals
 - Wildlife Hospital of Louisiana (WHL) & Community Practice / Outpatient Clinic
 - Companion Animal Rehabilitation Center



New Wildlife Hospital of Louisiana (WHL)



New Equine / LA Hospital West Entry



New Stand-Alone Louisiana Disease Diagnostic Laboratory (LaDDL)



2

FIRMS FROM SECTION C INVOLVED WITH THIS PROJECT

FIRM NAME	FIRM LOCATION (City and State)	ROLE
ED2 International, Architects & Planners	San Francisco, CA	Veterinary Facilities Planners

4. RELATIVE TEAM PROJECT EXPERIENCE

MVRDL New Central Reference Vet. Diagnostic Lab | Pearl, MS

MVRDL Renovated Full-Service Vet. Diagnostic Lab | Starkville, MS

TITLE AND LOCATION (City and State)		YEAR COMPLETED	
MVRDL NEW CENTRAL REFERENCE VET. DIAGNOSTIC LAB at Pearl, MS & MVRDL RENOVATED FULL-SERVICE VET. DIAG. LAB at Starkville, MS at MSU		PROFESSIONAL SERVICES Vet. Facilities Planning Consultant	CONSTRUCTION (If applicable) Pearl Lab - Comp. 2008 Starkville - Comp. 2012
PROJECT OWNER'S INFORMATION			
PROJECT OWNER Mississippi State University CVM Starkville, Mississippi	POINT OF CONTACT NAME Dr. Robert C. Cooper, Jr., DVM, PhD Assoc. Dean – Academic Affairs, MSU CVM	POINT OF CONTACT TELEPHONE NUMBER (662) 325-1134 Direct	

BRIEF DESCRIPTION OF PROJECT AND RELEVANCE TO THIS CONTACT (Include scope, size, and cost)

Services Provided: Master Planning, Programming, Assessment & Design

Size: 45,000 OGSF New Facilities at Pearl, MS & 30,000 OGSF Renovated at Starkville, MS

Cost: \$18 Million at Pearl, MS (In Collaboration with FoilWyatt, Jackson, MS & \$9.5 Million at Starkville, MS with Pryor+Morrow, Columbus, MS

Scope:

The new state funded full-service central reference MVRDL at Pearl, MS replaces and consolidates the outdated laboratories at Rankin County and Jackson with an accredited state-of-the-art facility by the American Association of Veterinary Laboratory Diagnosticians (AAVLD). And the remaining two diagnostic programs in Stoneville Catfish laboratory in the Delta and MSU-CVM, Starkville will be retained and will continue to complement the new MVRDL central reference laboratory to form an overall network of branch laboratories to form the MVRDL System. The new MVRDL addresses effectively the emerging regulatory bio-containment and bio-terrorism issues associated with contemporary animal disease diagnostics and prevention. It will improve diagnostic service and instructional needs, expand research capacity, and meet public health service concerns. It is equipped with sophisticated instrumentation with sustainable, safe and flexible, twenty-first century physical facilities, utility infrastructure, information technology, administrative quality controls, trained personnel, maintenance-friendly, energy-efficient and cost-effective operational protocols.

The building efficiency is 59% and has a total project costs of \$18 million:

- \$12 Million in building and site improvement construction costs and associated design fees and soft cost the first fiscal year and
- \$6 Million second year expenditure for procurement of new fixed and moveable equipment, furnishings and instrumentation necessary to fit-out the laboratories including a Alkaline Hydrolysis Tissue Digester with a fermentation unit to neutralize BOD and pH levels to meet USEPA standards.

The new 46,000 OGSF MVRDL consists of 14 specialty laboratory sections:

- 1) Bio-safety Level 3 Containment Facility - Necropsy & Lab conforming to CDC/NIH BMBL Standards
- 2) Clinical Pathology/ Parasitology
- 3) Computing/Multimedia & Telecommunication Services
- 4) Decontamination/ Washing/ Sterilization/ Clean Glassware and Media Storage
- 5) Development and QA/QC program training;
- 6) Epidemiology
- 7) Histopathology
- 8) Immuno-Histo-Chemistry (IHC)
- 9) Microbiology
- 10) Molecular Diagnostics (PCR Detection, Amplifications & Research)
- 11) Pathology/ Necropsy
- 12) Serology (Regulatory, Avian & Surveillance Testing)
- 13) Specimen Receiving/ Sample Sorting/ Unpacking/ Data Entry and
- 14) Virology/ Immunology



FIRMS FROM SECTION C INVOLVED WITH THIS PROJECT

FIRM NAME	FIRM LOCATION (City and State)	ROLE
ED2 International, Architects & Planners	San Francisco, CA	Veterinary Facilities Planners

4. RELATIVE TEAM PROJECT EXPERIENCE

New UNLVDC Biomedical Sciences Building | Lincoln, NE

TITLE AND LOCATION (City and State)		YEAR COMPLETED	
NEW UNL-VDC BIOMEDICAL SCIENCES BUILDING		PROFESSIONAL SERVICES Programming & Concept. Design 2009	CONSTRUCTION (If applicable) Scheduled Completion 2016
University of Nebraska, Lincoln, NE			
PROJECT OWNER'S INFORMATION			
PROJECT OWNER University of Nebraska Lincoln, NE	POINT OF CONTACT NAME Dr. David K. Hardin, DVM, Associate Dean, Prof/Head – Dept. of Vet & Biomed. Sciences	POINT OF CONTACT TELEPHONE NUMBER (402) 472-3379 P (402) 613-4600 Cell	

BRIEF DESCRIPTION OF PROJECT AND RELEVANCE TO THIS CONTACT (Include scope, size, and cost)

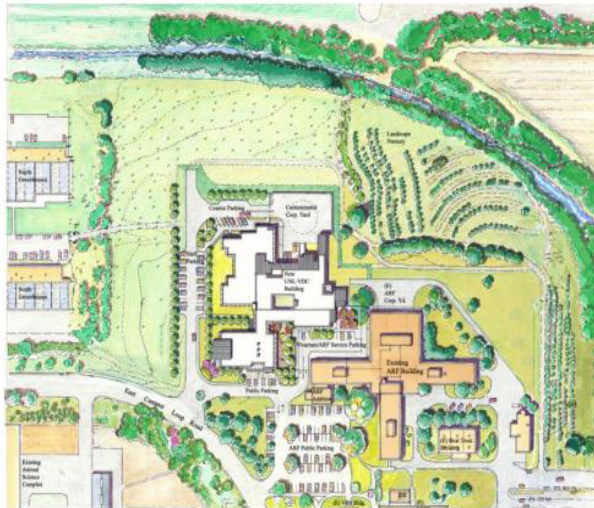
Services Provided: Master Planning, Programming, Assessment & Design

Size: 64,500 SF

Cost: \$48 Million

Scope:

One-story 64,500 SF laboratory, office and vivarium complex with second level mechanical penthouses and basement and a separate vivarium wing. Laboratory types include bacteriology, BSL-2 & BSL-3 containment facilities, computer/informatics, histology/IHC, molecular-diagnostics/DNA laboratories, Parasitology, pathology, serology, toxicology, virology and wildlife sections. Major features of the design include flexible modular BSL-2, ABSL-3 and BSL-3 laboratories, necropsy and vivarium facilities, centrally located laboratory support function spaces, and separate office and administrative wing.



FIRMS FROM SECTION C INVOLVED WITH THIS PROJECT

FIRM NAME	FIRM LOCATION (City and State)	ROLE
ED2 International, Architects & Planners	San Francisco, CA	Veterinary Facilities Planners

4. RELATIVE TEAM PROJECT EXPERIENCE

Havre High School Renovation and Upgrades | Havre, MT

**NE45 Project Name:**

Havre High School Renovation/ and Upgrades PAR

Owner Name:

Havre Public School District

Project Reference:

Andy Carlson, Superintendent
Havre Public School District
PO Box 7791
Havre, MT 59501
carlsona@bluepony12.com
406.265.8460

Services Provided:

Programming, Design

Size of Project in Square Feet:

Havre High School: 9,000 sf

Project Cost:

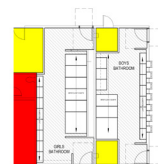
Havre High School: \$1.0M

Completion Date:

n/a



A-T1 PROPOSED WEST BATHROOM LAYOUT: FIRST FLOOR



A-T2 PROPOSED EAST BATHROOM LAYOUT: FIRST FLOOR



B-T3 PROPOSED BATHROOM LAYOUT: SECOND FLOOR

Havre High School Renovation/ ADA Upgrades PAR

Havre High School, located in northern Montana, serves 558 students accommodating 9th through 12th grade. This Preliminary Architectural Report (PAR) is intended to aid in the identification of the most feasible and cost effective solution for the development of Havre High School (HHS) to handle the upgrades and specific needs of the existing school. The study analyzes the handicapped accessibility of the toilets, the indoor air quality of the school, the utilization of existing science classroom and lab spaces, and the ability of the science classrooms and science labs to adequately serve the students of Havre High School. The PAR evaluates several options in which Havre High School can accomplish the building upgrades and needs of the District. A building condition assessment of the existing High School facility was conducted to determine necessary upgrades to the existing building and building systems for functionality and accessibility.

This report documents key components of the Preliminary Architectural Report, and represents a compilation of data, information and insight from a multitude of sources. The assessment and PAR was conducted with meetings between Havre Public School District administration, HHS administration and staff, and the NE45 Architecture team over a period of approximately three months.

The anticipated project construction is not yet scheduled for as the funding is still being procured. Anticipated construction start in spring of 2018.

4. RELATIVE TEAM PROJECT EXPERIENCE

John E. Thurman Central Ref. Vet. Diag. Lab | UC Davis, CA

TITLE AND LOCATION (City and State)		YEAR COMPLETED	
JOHN E. THURMAN CENTRAL REFERENCE VET. DIAGNOSTIC LAB		PROFESSIONAL SERVICES	CONSTRUCTION (If applicable)
California Animal Health & Food Safety Lab System, UC Davis, CA		Architecture Prime	1986; 1996, 2002 & 2009
PROJECT OWNER'S INFORMATION			
PROJECT OWNER	POINT OF CONTACT NAME	POINT OF CONTACT TELEPHONE NUMBER	
Regent of the University of California	Dr. Alex A. Ardans, DVM	(530) 758-9191 P	
Calif. Animal Health & Food Safety Lab Sys.	Executive Director Emeritus		

BRIEF DESCRIPTION OF PROJECT AND RELEVANCE TO THIS CONTACT (Include scope, size, and cost)

Services Provided: Full Architectural Services – Original Building Completed '86, Maddy Lab Addition Completed '96; New Labs Tulare '02 & Renovation '09..

Size: 46,000 GSF

Cost: \$ 10.3 Million

Project Relevance:

- State-of-the-art central reference veterinary diagnostics laboratory serving as the State of California to test for food safety and to control outbreaks and eradicate food animal diseases. In addition to Thurman Central Reference Lab, we renovated all the branch labs (4) and planned all future new labs (4). Bio-diverse facilities handling and determining infectious species from a pet, exotic, poultry and/ or game birds to large mammals (Bovine, Equine, Porcine, Ovine, & as big as a bull elephant).
- Bio-safety Levels 2 and 3+ Containment with airlocks, directional airflow, redundant fail-safe building systems, shower-in / shower-out facilities, vivaria and Type 4 Pathological Incinerator.

Design Concept & Features:

New 46,000 SF central reference, full-service veterinary diagnostic laboratory for the State of California. This state-of-the-art laboratory replaced and consolidated the existing obsolete Petaluma and Sacramento facilities. The building has a concentric plan, with the necropsy and specimen/ sample receiving suites centrally located. These are surrounded by nine laboratory sections and then around these sections are the office and office support areas. Interstitial level maintenance catwalk that allow for servicing of the laboratory spaces without entering the laboratories are also provided in the design.



FIRMS FROM SECTION C INVOLVED WITH THIS PROJECT

FIRM NAME	FIRM LOCATION (City and State)	ROLE
ED2 International, Architects & Planners	San Francisco, CA	Veterinary Facilities Planners

4. RELATIVE TEAM PROJECT EXPERIENCE

Pathways I.C./ Roosevelt High School Campus | Casper, WY



NE45 Project Name:

Pathways Innovation Center/Roosevelt High School

Owner Name:

Natrona County School District
Casper, WY

Project Reference:

Dennis Bay, Executive Director
Natrona County School District #1
970 N. Glenn Road
Casper, WY 82601
307.253.5200

Services Provided:

Programming, architectural design, construction,
administration

Size of Project in Square Feet:

133,315 SF

Project Cost:

\$47 Million

Completion Date:

2015



Pathways Innovation Center/ Roosevelt High School Campus*

This New Campus was designed to accommodate both a new facility for the school district's alternative high school of choice, Roosevelt High School (RHS), and the new Pathways Innovation Center (P.I.C.), which will serve students from all three existing high schools in the district.

Roosevelt High School is an Alternative High School in the Natrona County School District and it has a current enrollment of 160, limited by the existing facility that was originally designed as an Elementary School in the early 1900s. With a new facility the school is expected to grow to 300 students and approximately 30 teaching staff in a highly personalized, non-traditional project-based learning experience. The Teton County Library is an active community center focused on lifetime learning offering access to information, literature and ideas.

*Work done while with MOA Architecture as a Principal and Project Manager as well as designed in collaboration with Cunningham Group Architects.

4. RELATIVE TEAM PROJECT EXPERIENCE

New Vet. Diagnostic Laboratory | St. Paul, MN

TITLE AND LOCATION (City and State)		YEAR COMPLETED	
NEW VETERINARY DIAGNOSTIC LABORATORY University of Minnesota, St. Paul, MN		PROFESSIONAL SERVICES Programming & Design	CONSTRUCTION (if applicable) Completed 1993 & Renovated 2009
PROJECT OWNER'S INFORMATION			
PROJECT OWNER University of Minnesota St. Paul, MN	POINT OF CONTACT NAME Dick Gilyard, FAIA (Former Design Principal) Lindberg Pierce Architects, Minneapolis, MN	POINT OF CONTACT TELEPHONE NUMBER (612) 362-9056 P (612) 875-6407 Cell	

BRIEF DESCRIPTION OF PROJECT AND RELEVANCE TO THIS CONTACT (Include scope, size, and cost)

Services Provided: Master Planning, Programming, Assessment & Design

Cost: \$ 6 Million

Recognition: MBMA Design Award, 1993

Design Concept & Features:

The University of Minnesota at St. Paul selected ED2 International as laboratory programmer and special design consultant working with a local firm of record, Lindberg / Pierce and Associates. The new 41,000 OGSF three-story Addition and 13,000 OGSF Alterations to the existing three-story Veterinary Diagnostic Laboratory (VDL) for the School of Veterinary Medicine is a state-of-the-art facility. This Veterinary Diagnostic Laboratory accommodates instruction and allows the VDL "to provide full, accredited diagnostic service to livestock and poultry producers, the Minnesota Board of Animal Health, practicing veterinarians and the companion animal owners of Minnesota." As a Bio-safety Level 2 (BSL-2 & BSL-3) building, the new Addition transforms the existing 27 year old, non-accredited sub-standard facility to one on the forefront of modern technological advances. A computer networking system links the various spaces throughout the Laboratory.

Program spaces include vivaria, wet and dry laboratories, controlled environments, interactive offices, electron-microscopy suite renovations, client interview and public spaces, library / conference spaces, and student support areas. The harsh winter climate dictates the inclusion of a covered loading dock to provide access for the delivery of live animals, carcasses, and laboratory samples. The southern expansion is along Gortner Avenue towards the Commonwealth Avenue intersection. The new construction connects the newly renovated V.D.L. via a two-story bridge over a vehicular drive-through.



Aerial View of Entire Development in Reference to the Campus



View from Corporation Yard of Bridge Connection



Featured Interactive Spaces with Metal Panels



High-Bay Necropsy Room with Sloping Metal Roofing



Offices in the Middle Floors



Physical Model of Addition & Renovation



Indoor Loading Dock



Dry Labs with Service Aisles



Routine Large Animal Mammalian Necropsy

FIRMS FROM SECTION C INVOLVED WITH THIS PROJECT

FIRM NAME ED2 International, Architects & Planners	FIRM LOCATION (City and State) San Francisco, CA	ROLE Veterinary Facilities Planners
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4. RELATIVE TEAM PROJECT EXPERIENCE

Lincoln McKinley Elementary School | Havre, MT



NE45 Project Name:

Lincoln McKinley Elementary School Renovation and ADA Upgrades PAR

Owner Name:

Havre Public School District

Project Reference:

Andy Carlson, Superintendent
Havre Public School District
PO Box 7791
Havre, MT 59501
carlsona@blueponyk12.com
406.265.8460

Services Provided:

Programming, Design

Size of Project in Square Feet:

35,000sf

Project Cost:

\$4.6M

Completion Date:

n/a



Lincoln McKinley Elementary School Preliminary Architectural Report


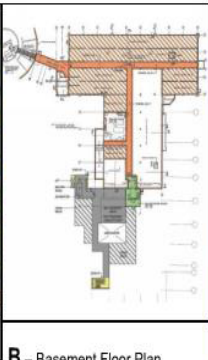
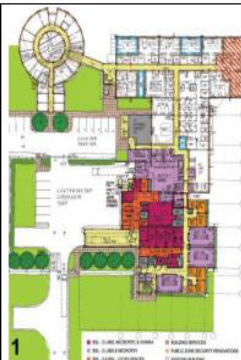

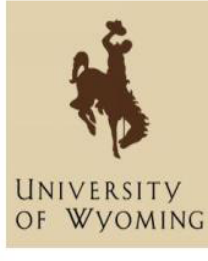

This project is a preliminary architectural report (PAR) that contained an assessment of the existing elementary school's condition and an evaluation of its current use. The PAR evaluated classroom needs, ADA handicapped accessibility issues, code deficiencies, safety items, energy efficiency and bathroom upgrades. Options for the final plan were developed along with an educational plan and project specifications, and a final program plan was created to be used as a basis of procurement of design services, installation and associated elements. A building condition assessment of the existing Primary School facility was conducted to determine necessary upgrades to the existing building and building systems for functionality, ADA accessibility, security, and code-related items.

The review and assessment of capacity for school districts within this study was conducted in a collaborative process involving the School District, Lincoln-McKinley Primary School, and the Planning Team. The process involved multiple meetings collectively and independently with each party and the planning team to ensure all voices were heard. Meeting participants included Havre Public Schools officials; LMPS administration and staff; and Planning Team representatives.



4. RELATIVE TEAM PROJECT EXPERIENCE

New Wyoming State Vet. Laboratory | Laramie, WY

TITLE AND LOCATION (City and State)		YEAR COMPLETED	
NEW WYOMING STATE VETERINARY LABORATORY (WSVL) University of Wyoming, Laramie, WY		PROFESSIONAL SERVICES Programming & Concept. Design	CONSTRUCTION (If applicable) Completed 2011
PROJECT OWNER'S INFORMATION			
PROJECT OWNER University of Wyoming Laramie, WY	POINT OF CONTACT NAME Dr. Frank D. Galey, PhD, Dean College of Ag. & Dept. of Veterinary Sciences	POINT OF CONTACT TELEPHONE NUMBER (307) 766-4133 P	
BRIEF DESCRIPTION OF PROJECT AND RELEVANCE TO THIS CONTACT (Include scope, size, and cost)			
Design Concept & Features: Working in conjunction with University of Wyoming, HDR Architecture, Denver, CO and state representatives at the WSVL, in Laramie, WY, the programming / conceptual design team assessed two sites and decided to add to the existing WSVL laboratory with a major 28,000 OGSF addition/renovation with new BSL-3 Suite & BSL-2 labs for Wildlife, Bacteriology and Virology and to planned a phased renovation of existing laboratory facilities to address AAVLD accreditation upgrades, Homeland Security and access control improvements.			
Cost: \$32 Million			
<ul style="list-style-type: none">New CDC/NIH BMBL BSL-3 Suite:<ul style="list-style-type: none">BSL-3 Necropsy with shower-out, autoclave-out, instrumentation gas sterilization / decontamination -out, heat treatment of BSL-3 liquid effluent, incinerate-out & redundant HEPA filtered facilities.Sally port/garage/vehicular wash to handle in-coming live and dead animals with loading dock, triage, holding pen, loading alley, monorail/hoists, euthanizing squeeze and headgate with walk-in double-height cooler with monorail & top-loading class 4 waste rated pathological incinerator.Maintenance-friendly mechanical penthouse, basement & automatic ash-removal lift.Three BSL-3 Labs with pass-throughs to BSL-3 necropsy. Two BSL-3 Vivaria and anterooms for inhalation and in-vitro studies. BSL-2 Prep. Lab and airlocks with electrically interlocked doors.New BSL-2 Labs, Lab Support, Offices & Office Support<ul style="list-style-type: none">State of Wyoming Game and Fish Department Wildlife lab, faculty and lab tech. officesBacteriology lab, faculty and lab tech. officesVirology diagnostic lab, faculty and lab tech. offices, Histology tech. & graduate student officesNew Central Accessioning, Specimen receiving and Sample Processing & Tracking with nighttime drop-off refrigeratorsFeed/ Bedding Storage, Cage Washer & Ventilated Caging Systems.Walk-in cold rooms, FA scope alcoves, Histology slide and block storageRenovated Modular / Flexible Diagnostic Labs & Interactive Space<ul style="list-style-type: none">Renovation of existing BSL-2 Necropsy with revised viewing gallery, shower-out facilities with foot baths and boot wash capabilities. Renovated gross trimming, wet tissue storage, photo, data entry, formalin mixing and new BSL-2 double-height in-coming & out-going coolers with monorails.Renovation for IHC, Immuno-Histo-Chemistry lab for auto-stainers in separate lab.Enlarging Central Kitchen with separate dirty-in and clean/media prep.-out capabilities.Renovate labs for Parasitology, Tissue Culture, Immuno-diagnostics for PCR/DNA thermo-cycler technology by separating PCR clean amplification lab from detection and sample receiving areas.Site Development Issues (7,147 Feet Elevation & Harsh Microclimates):<ul style="list-style-type: none">Contaminated Corporation Yard with out-going vehicular wheel wash & clean courier parking lot.Shield strong southwest prevailing winds with trees, fencing, security gates, card readers, cameras, loop access road, site lighting & site screening. Earth berm buffering to meet State Homeland Security requirements. Proximity to Highway 80, Streetscape frontage, clearly defined front door/public zone, contextual siting with surrounding buildings & 100-yr. flood plain requirements.			
			
Site Utilization Plan		B – Basement Floor Plan	
			
1		2	
			
			
FIRMS FROM SECTION C INVOLVED WITH THIS PROJECT			
FIRM NAME ED2 International, Architects & Planners	FIRM LOCATION (City and State) San Francisco, CA	ROLE Veterinary Facilities Planners	

4. RELATIVE TEAM PROJECT EXPERIENCE

Montana State University Northern Wellness Center | Havre, MT



NE45 Project Name:
MSU-Northern Wellness Center

Owner Name:
Montana State University Northern

Project Reference:
Gregory D. Kegel, Chancellor
Montana State University Northern
300 West 11th St.
Havre, MT 59501
406.265.3700

Services Provided:
Feasibility study, programming, architectural design, Maintain Historical Characteristics of the overall campus

Size of Project in Square Feet:
58,000 sf

Project Cost:
\$17M

Completion Date:
Waiting Funding



Montana State University Northern Wellness Center

Located in Havre, MT MSUN has requested a facility feasibility study and design for a new west side campus renovation. The renovation would include a new 70,000 SF Wellness Center which will include classrooms, banquet area, student/staff gym, team locker rooms, trainer rooms, meeting rooms, administration/staff office area with conference rooms, concessions' area with a full kitchen, bathrooms, elevator, a ticket office as well as a new football stadium with a bleacher seating capacity of 5,000 people along with booster/press box area and a new scoreboard while still maintaining the historic feel of the overall campus. There will be a full site development for parking, walking and drive-access along with landscaping/paths to integrate the design with their current campus. The additional space will also create more options for a healthy campus living environment for students and staff by providing more opportunities for indoor and outdoor recreation space. Along with the indoor wellness center there will be a walking and jogging path that will surround the campus and provide a safe and healthy way to enjoy the outdoors. The walking and jogging path will be available to faculty, students, staff, and the Havre public. NE45 Architecture was responsible for the facility feasibility assessment, the master plan and the entire design of the 70,000 SF Wellness Center. NE45 also had to provide marketing materials and help promote the design for their initial fund-raising campaign.

4. RELATIVE TEAM PROJECT EXPERIENCE

Animal Disease Research & Diagnostic Lab (ADRDL)

TITLE AND LOCATION (City and State)		YEAR COMPLETED	
ANIMAL DISEASE RESEARCH & DIAGNOSTIC LAB (ADRDL) & ANIMAL RESOURCES WING (ARW) South Dakota State University, Brookings, SD		PROFESSIONAL SERVICES Full Services	CONSTRUCTION (If applicable) 2003 & Renovated 2008
PROJECT OWNER'S INFORMATION			
PROJECT OWNER South Dakota State University Brookings, SD	POINT OF CONTACT NAME Dr. David Zeman, DVM Executive Director, ADRDL, SDSU	POINT OF CONTACT TELEPHONE NUMBER (605) 688-5172 P	

BRIEF DESCRIPTION OF PROJECT AND RELEVANCE TO THIS CONTACT (Include scope, size, and cost)

Services Provided: Programming, Needs Assessment, Justification for New Lab Additions & Full Services for both ADRDL & ARW.

Cost: ARW at \$ 4.3 Million & ADRDL Diagnostic Lab at \$6.1 Million

Design Concept & Features: The ARW, Animal Resources Wing, is a new stand-alone, consolidated centralized vivarium facility serving the entire campus. The building is designed to meet and exceed NIH/CDC guidelines, AAALAC and USDA accreditation requirements. This 16,000 SF facility is designed with a mezzanine service catwalk level for maintenance & upkeep. Development Program consists of:

- **Animal Holding** (Quarantine, Bio-clean, Conventional, BSL-2 vivaria and BSL-3 Containment Areas)
 - For conventional laboratory animals, 2 large animal holding rooms were planned with five separate small cubicles and one procedure/ prep area for each room. Each cubicle supports 2 cage racks for mice, rats, gerbils, guinea pigs and rabbits. The College of Arts and Sciences, Psychology, Biological Sciences & Agriculture are the primary end users.
 - An avian animal holding suite with a large ante room/ procedure area serving 2 animal rooms.
 - The Bio-containment vivaria consists of BSL-2 conventional vivaria for farm animals, complete with pens, gates and corrals in the corridor and rooms to direct animal flow while protecting keeper staff.
 - Designed with dual corridor concept, airlocks and equipped with shower-out, sterilize-out, negative pressurization/ directional airflow and bag-in/ bag-out HEPA filtration on the exhaust system. Class II Bio-safety cabinets & Class III glove boxes were plumbed & roughed-in.
- **Animal Treatment** (A centralized aseptic suite is designed with animal and instrument preparation with squeeze chute, scrub, surgery, treatment, pharmacy, x-ray, recovery and necropsy facilities).
- **Animal Services** (Cage Wash/ decontamination areas, separate dirty to clean flow with pass-through bio-sealed autoclave, rack washer, space for future tunnel washer & laundry facilities).
- **Animal Support** (Feed and Bedding, biohazard storage and shipping/ receiving areas).
- **Administration** (Reception office/ break room with control access entry vestibule, Campus Veterinarian and animal technician offices, record storage, staff toilets/ lockers and shower rooms, conference and procedure/ teaching laboratory and custodial areas).

Veterinary Facilities Planner to Holman & Associates, Inc. Sioux Falls, SD		South Dakota State University SDSU	
			
EM Suite, Autoclave-out & Modular / Flexible Labs			
<div>Redundant Low Stack Height Stroke Exhaust Fans</div> <div>Medium-Voltage</div> <ul style="list-style-type: none">• Normal Power• Dedicated• Clean Power Conditioning• Standby Emergency Power• Battery UPS, Un-Interrupted Power Supply			
FIRMS FROM SECTION C INVOLVED WITH THIS PROJECT			
FIRM NAME ED2 International, Architects & Planners	FIRM LOCATION (City and State) San Francisco, CA	ROLE Veterinary Facilities Planners	

Animal Resources Wing (ARW) | Brookings, SD



5. ADDITIONAL INFORMATION

SECTION

5

ED2 international

Environmental Design & Eco-nomic Development

"The Art of Shaping Spaces & Making Places"



250+ Modular, Flexible, Safe & Functional Labs

(15 of the Top 40) National Science Foundation Funded University R&D Centers)



1. University of Michigan
2. University of Wisconsin
3. University of Washington
4. Massachusetts Institute of Tech.
5. Texas A&M University
6. University of California, S.F.
7. Cornell University
8. Johns Hopkins University
9. University of Minnesota
10. Pennsylvania State University
11. University of California, S.F.
12. Stanford University
13. University of California, L.A.
14. University of Arizona
15. University of California, Berkeley
16. Harvard University
17. University of Pennsylvania
18. University of Colorado
19. Ohio State University
20. University of Illinois, Urbana-Champaign
21. Columbia University, New York
22. University of California, Davis
23. Yale University
24. University of Texas at Austin
25. University of Southern California
26. Duke University
27. Georgia Institute of Technology
28. University of Maryland
29. University of North Carolina
30. Washington University
31. University of Georgia
32. Purdue University
33. Rutgers University of NJ
34. Baylor College of Medicine
35. Louisiana State University
36. University of Pittsburgh
37. North Carolina State University
38. Northwestern University
39. University of Iowa
40. Michigan State University



5. ADDITIONAL INFORMATION

ED2 International's Veterinary Diagnostic Laboratory Experience: Project Name / Institution / Location	VDL Program Features / Lab Sections													Client Contact / Title / Phone Number and / or Email Address	
	Bio-safety Level 2 & 3	Bacteriology / Microbiology / Media prep.	Chemistry / Racing Chemistry	Data Entry / Specimen Receiving	Histology / IHC - Immunohistochemistry	Quality Assurance / Quality Control	Informatics / Information Technology	Molecular Diagnostics / DNA / PCR	Centralized Kitchen / Glass Wash / Steriliz.	Pathological Incinerator / Tissue Digester	Pathology / Necropsy / Clinical Pathology	Serology (Avian/ Regulatory/ Surveillance)	Toxicology / Nutrition / Food Safety		Virology / Immunology
(19) VDL Projects – Planning, Design & Construction (2001- 2017)															
ADL, Animal Diagnostic Lab Penn. State University PADLS BSL-3 Facility Planning Seminar, University Park, PA	3	■		■	■	■		■	■	i	■	■		■	Dr. John I. Enck, Jr., VMD State Vet. & Resident Director, Emeritus Penn. Veterinary Lab jenck115@comcast.net
ADRD South Dakota State University Brookings, SD	3	■		■	■	■	■			i	■		■	■	Dr. Jane Christopher Hennings, DVM, Executive Director & Dept. Head (605) 688-5772; jane.Hennings@sdstate.edu
ARW, Animal Resources Wing South Dakota State University Brookings, SD	3	■	■	■		■			■		■				Dr. David H. Francis, PhD, ARW Director (605) 695-6452; david.francis@sdstate.edu
CAHFS, (N) Central Valley VDL DPP - Tulare, CA (UC Davis) - Turlock, CA (UC Davis)	2	■	■		■	■		■	■	d		■	■	■	Dr. Alex A. Ardans, DVM, Executive Director Emeritus – Both Labs (530) 759-9191; aaardans@ucdavis.edu
	3	■	■		■	■	■	■	■	d	■	■	■	■	
DCPAH - Diagnostic Center for Population & Animal Health Michigan State University Lansing, MI	3	■	■	■	■	■	■	■	■	i	■	■	■	■	Dr. Willie M. Reed, DVM, Ph.D. Former Director, DCPAH, Michigan St. Dean, Purdue University SVM (765) 426-0231 C; wreed@purdue.edu
ISU-CVM Lloyd VMC – VDL BSL-3 Additions; Needs Assessment & (N) Stand-Alone VDL Master Plan - Ames, IA	3	■	■	■	■	■		■	■	d	■		■	■	Dr. Patrick G. Halbur, DVM, Exec. Director (515) 294-6970; pghalbur@iastate.edu Dr. John U. Thomson, DVM, Dean, CVM (515) 231-5150 C; Thomson@iastate.edu
KSU-CVM KSVDL Program Manhattan, KS	3	■	■	■	■	■	■		■	d	■	■	■	■	Dr. Gary A. Anderson, DVM, Exec. Director (785) 532-4454; ganders@vet.k-state.edu
LaDDL Louisiana Dept. of Agriculture & LSU-SVM - Baton Rouge, LA	3	■	■	■	■	■	■	■	■	d	■	■	■	■	Dr. Peter F. Haynes, DVM, Dean Emeritus, LSU SVM (225) 578-9903; phaynes@vetmed.lsu.edu
MVRDL Central Reference VDL, Dept. of Agriculture & Mississippi State, Pearl, MS	3	■	■	■	■	■	■	■	■	d	■	■	■	■	Dr. Lanny W. Pace, DVM, Ph.D., ACVP, Exec. Director, MVRDL (601) 953-7158; pace@cvm.msstate.edu
New Bolton Center Cost Plan, University of Pennsylvania, Kennett Square, Philadelphia	3	■	■	■	■	■	■	■	■	d	■	■	■	■	Dr. Robert J. Eckroade, DVM, Ph.D, ACVP Resident Director Emeritus (610) 444-4282; Eckroade@vet.upenn.edu
PVL, Penn. Veterinary Lab BSL-3 Renovations & Addition Harrisburg, PA	3	■	■	■	■	■	■	■	■	i	■	■	■	■	Dr. Helen M. Acland, B.VSc., ACVP, Resident Director, Emeritus (717) 787-8808; hacland@state.pa.us
UNL-VDC Univ. of Nebraska Lincoln, NE	3	■	■	■	■	■	■	■	■	d	■	■	■	■	Dr. David K. Hardin, DVM, Assoc. Dean UNL VDC (402) 472-3379 P; 613-4600 C
University of Wisconsin VDL Third Party Peer Reviewer Madison, WI	3	■	■	■	■	■	■	■	■	d	■	■	■	■	Dr. Daryl D. Buss, DVM, Ph.D. Dean, Emeritus - UW CVM (608) 263-6716 P
University of Wyoming, WWSL Program & Conceptual Design Laramie, WY	3	■	■	■	■	■	■	■	■	d	■	■	■	■	Dr. Frank D. Galey, Ph.D., Dean University of Wyoming (307) 756-4133 P; fgaley@uwyo.edu
WADDL, Washington State VDL Cost Plan Consulting Pullman, WA	3	■	■	■	■	■	■	■	■	d	■	■	■	■	Dr. Terry F. McElwain, DVM Executive Director, WADDL (509) 335-6342 P
Western University of Health Sciences CVM Necropsy Suite Alteration Program / Cost Plan Pomona, CA	2	■	■	■	■	■	■	■	■	d	■	■	■	■	Dr. Phillip D. Nelson, DVM, Ph.D., Dean Western University of Health Sciences, CVM - Pomona, CA (909) 920-5844 C; pnelson@westernu.edu

Legend: 2 = Biosafety Level 2; 3 = Biosafety Level 3; i= Pathological Incinerator; d = Alkaline Hydrolysis Tissue Digester

5. ADDITIONAL INFORMATION

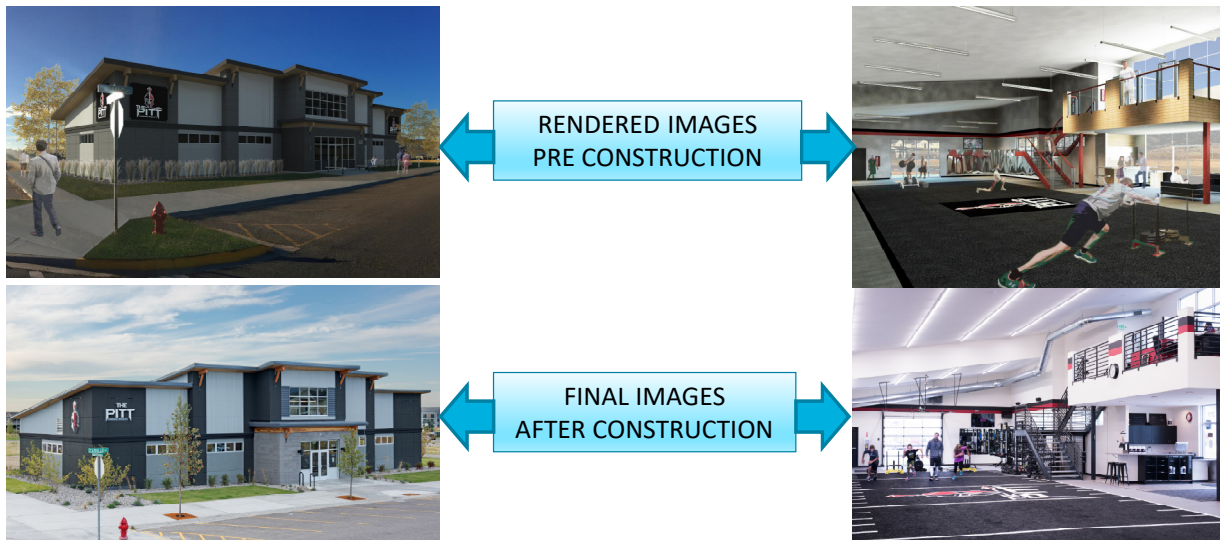
ED2 International's Veterinary Diagnostic Laboratory Experience: Project Name / Institution / Location	VDL Program Features / Lab Sections														Client Contact / Title / Phone Number and / or Email Address
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(17) Completed VDL Projects (1984 - 2000)															
CVDLS – California Veterinary Diagnostic Laboratory System – (4) VDL Branch Lab Alterations & Additions, <u>University of California, Davis</u> :														Dr. Alex A. Ardans, DVM, Executive Director Emeritus For all 4 Lab facilities listed (530) 758-9191; aardans@ucdavis.edu	
- Fresno Poultry Lab & Office Assessment & Renovations	3	■	■	■	■	■	■	■	■	i	■	■	■	■	Dr. Bennie I. Osburn, DVM Dean Emeritus, UCD-SVM (530) 752-1360; biosburn@ucdavis.edu
- San Bernardino Necropsy, Loading Dock & Cooler Corrections	2	■	■	■	■	■	■	■	■	i	■	■	■	■	
- Tulare VMTRC Lab Assessment & Plan	2	■	■	■	■	■	■	■	■	i	■	■	■	■	Dr. Frederick A. Murphy, DVM Dean Emeritus, UCD-SVM U. of Texas Medical Branch Professor, Dept. of Pathology (409) 747-2430; famurphy@utmb.edu
- Turlock Poultry Lab Assessment, Office Addition & Lab Alternations	2	■	■	■	■	■	■	■	■	i	■	■	■	■	
Henry J. Voss Plant Pest Diagnostic Center CDFA, Sacramento, CA	2	■	■	■	■	■	■	■	■	■	■	■	■	■	Mr. Bob Roberson - Branch Chief Chair - Building Committee (916) 396-5141 C; bob.roberson@aol.com
John E. Thurman Central Ref. Veterinary Diagnostic Lab U.C., Davis, CA	3	■	■	■	■	■	■	■	■	i	o	■	■	■	Dr. Alex A. Ardans, DVM, Executive Director Emeritus For both new Labs listed (See above)
Kenneth Maddy Racing Chemistry Lab DPP, U.C., Davis, CA	2	■	■	■	■	■	■	■	■	■	■	■	■	■	Dr. Edward A. Rhode, DVM Dean Emeritus, UCD-SVM (530) 753-4458; earhode@ucdavis.edu
Marsh VDL Phy. Assessment, Montana State, Bozeman, MT	2	■	■	■	■	■	■	■	■	■	■	■	■	■	Dr. Bill Quinn, DVM, Director Emeritus
MVRDLS, Mississippi Veterinary Research and Diagnostic Laboratory System - (8) VDL Assessments & Planning Guide, <u>Mississippi State University, Starkville, MS</u>														Dr. Robert C. Cooper, Jr., DVM Associate Dean for Academic Affairs MSU CVM Wise Center VDL Alterations & MVRDLS Assessment & Planning Guide (662) 325-1134 P; rcooper@cvm.msstate.edu	
- Jackson Central Reference Lab Assessment	3	■	■	■	■	■	■	■	■	i	■	■	■	■	Dr. Lanny W. Pace, Executive Director MVRDL System - Pearl, MS (601) 420-4700 P; (601) 953-7158 C; pace@cvm.msstate.edu
- Laurel Industry Poultry Branch Lab	2	■	■	■	■	■	■	■	■	■	■	■	■	■	
- Rankin County Poultry Branch Lab	2	■	■	■	■	■	■	■	■	■	■	■	■	■	Dr. Danny L. Magee, DVM, MAM, ACPV Clinical Professor, Avian Medicine Poultry Research & Diagnostic Lab (PRDL), Executive Director (601) 259-6086 (C)
- Starkville CVM-CLS Assessment & Planning Guide	2	■	■	■	■	■	■	■	■	i	■	■	■	■	
- Stoneville ADLS Aquatics Branch Lab	2	■	■	■	■	■	■	■	■	■	■	■	■	■	Mr. Dick Gilyard, FAIA, Former Design Principal – Lindberg + Pierce Architects (612) 362-8995 P; (612) 875-6407 C; Rgilyard.architect@earthlink.net
- Biloxi & Oxford Future Transfer Stations	2	■	■	■	■	■	■	■	■	■	■	■	■	■	
- Wise Center CVM Master Plan & Assessment - Starkville	2	■	■	■	■	■	■	■	■	i	■	■	■	■	Dr. Martin Bergelund, DVM, Director Emeritus - (605) 826-4128
University of Minnesota CVM Vet. Med. Center South New Veterinary Diagnostic Lab St. Paul, MN	2	■	■	■	■	■	■	■	■	■	■	■	■	■	

Legend: 2 = Biosafety Level 2; 3 = Biosafety Level 3; i= Pathological Incinerator; d = Alkaline Hydrolysis Tissue Digester



5. ADDITIONAL INFORMATION

Graphic Capabilities



The Pitt Training Facility | Bozeman, MT



5. ADDITIONAL INFORMATION



5. ADDITIONAL INFORMATION



5. ADDITIONAL INFORMATION

VR Capabilities - Experience Your Design Pre-Construction:

STEPS TO VIRTUAL REALITY IN YOUR PROJECT:

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Purchase "Google Cardboard" Head Mounted Display or (HMD) available off of amazon.com or easily supplied by NE45 Architecture.

Step 2:

Assemble "Google Cardboard" Head Mounted Display with elastic and foam as needed.

Step 3:

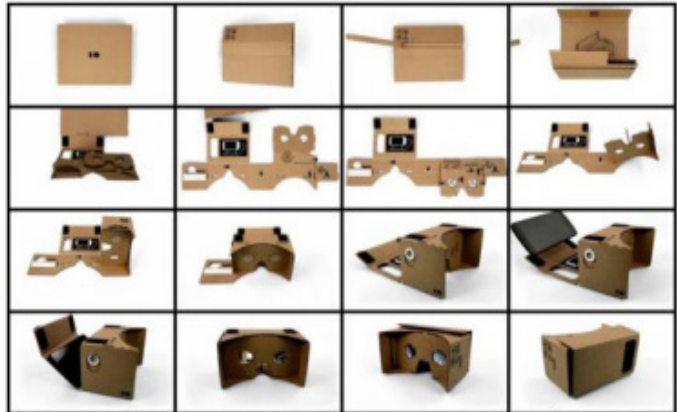
Download Cardboard App. from Android or Apple app store OR click on a link provided by NE45 Architecture to view on your mobile device.

Step 4:

Place phone in location shown on directions and hold HMD up as shown for a full virtual experience of your NE45 Architecture project.

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Thank you for your consideration and we look forward to working with you.

