

CURRICULUM VITAE

PHILIP D. DREGGER, P.E.

2339 Stanwell Circle, Suite A
Concord, CA 94520-4875
(925) 356-7773 • (925) 356-7776 fax
e-mail: pdregger@DNG-Group.com
(Above link deactivated to protect against spam)

EDUCATION

- 1978 Master of Science in Civil Engineering
 University of Minnesota - Minneapolis
- 1976 Bachelor of Science in Civil Engineering
 University of Minnesota - Minneapolis

REGISTRATIONS

Professional Engineer (PE), State of Nevada, No. 20121, June, 2009
Registered Roof Consultant (RRC), No. 0027, March, 1993
Professional Engineer (PE), State of California, No. C45646, August, 1990
Certified Roof Consultant (CRC), No. 0027, October, 1989
Professional Engineer (PE), State of Minnesota, No. 14746, February, 1981

PROFESSIONAL AFFILIATIONS

- Roof Consultants Institute (1984 - Present)
 Director (1990 - 1993)
 Education Task Force (1992 - 1997)
 Fellow (1997)
- ASTM Committee D-8 (1990 - Present)
 Member
- Roofing Industry Committee On Weather Issues (1992 - Present)
 Executive Committee, RCI Representative (1992 - Present)
 Researcher, Wind Event Investigation Program (1996 - Present)
 Treasurer, Executive Committee (1992 - 1996)
 Steering Committee, Edge Flashing Research Project (1994 - 1996)
- Roof Industry Educational Institute (1993 - 2001)
 Faculty Member
- American Association for Wind Engineering (1993 - 1997)
 Member

EMPLOYMENT EXPERIENCE

- 1991 - Present President - Technical Roof Services, Inc. (TRS), Concord, California
Vice President - Pacific Building Consultants, Inc. (PBC), Concord, California
Develop company goals and monitor performance. Provide full range of roof, waterproofing, and building integrated photovoltaic (BIPV) roofing consulting services including condition evaluations, failure investigations, defect inspections, expert witness, construction documents, and observation of construction activities.
- 1989 - 1991 Senior Engineer
Wiss Janney Elstner Associates Inc., Emeryville, California
Performed condition studies of exterior building envelopes and developed repair procedures. Investigated roofing, waterproofing, and facade failures and provided expert testimony. Served as project manager responsible for cost control, client liaison and quality assurance during construction.
- 1988 - 1989 Manager, Construction Materials Department
Twin City Testing Corporation, St. Paul, Minnesota
Developed strategic business and marketing plans. Monitored and controlled financial performance of department's four profit centers. Restructured department and implemented total quality system. Investigated concrete, masonry, roof, and waterproofing failures.
- 1984 - 1988 Supervisor, Roofing Department
Twin City Testing Corporation, St. Paul, Minnesota
Guided development and growth of roof engineering and testing services. Provided expert testimony on roofing failures, technical and administrative supervision for department and training of engineering staff.
- 1981 - 1984 Project Engineer, Soils and Geology Department
Twin City Testing Corporation, St. Paul, Minnesota
Coordinated and directed QC testing services (i.e. soils, concrete, reinforcing steel and NDT) for major construction projects. Investigated and recommended repairs for foundation and materials related conditions including moisture intrusion.
- 1978 - 1981 Civil Engineer, Soils and Geology Department
Twin City Testing Corporation, St. Paul, Minnesota
Performed engineering and construction observations on geotechnical and earthwork projects. Expertise in embankment building foundations, retaining walls, below-grade waterproofing, and pre-stressed rock anchors.

PUBLICATIONS (partial list)

- “Rooftop Photovoltaics” Proceedings 24th RCI International Convention, March 12-17, 2009, Dallas, TX.
- “California Energy Code – 2008 Updates” Western Roofing Magazine, November/December 2008.
- “California Cool Roofs: A Snapshot of Installed Costs,” Western Roofing Magazine, November/December 2006.

PUBLICATIONS (continued)

“Hurricanes Charley and Ivan Investigation Report,” RICOWI Wind Investigation Program Report, March 2006, authored 1 of 9 Report Sections.

“The Wind Investigator – How to Approximate Wind Velocities at Roof Level,” RCI Interface, October, 2005.

“Lessons Learned from Florida Hurricanes”, RCI Interface, February 2005, co-authors: Lynne Christensen, Dave Roodvoets, et al.

“Air Infiltration–The Enemy of Wind Resistance & Condensation Control”, RCI Interface, June 2002.

“Steep Roofing-Underlayment Upgrades that Sometimes Aren't”, Western Roofing, January/February 2001 (reprinted in Copper and Common Sense, 8th Edition, 2005, 5.A.4ff).

“Avoiding Cracks – Meeting Deflection Criteria may not be Enough for Concrete Decks”, Architectural West, November/December, 1999.

“Comparing SBS and SEBS Polymers – Factual Statements can Still be Misleading”, RCI Interface, October 1998.

“Heavy Duty Walkways — A Simple Suggestion for 'Jolt-Less' Protection”, Western Roofing, January/February, 1997.

“Lightweight Decks and FMRC Approvals”, RCI Interface, September, 1996.

“Roof Coatings – Selection of Roof Coatings can be Confusing”, Western Roofing, March/April, 1995.

“Asking the Impossible — Merging Wood Decks and FM Approved Assemblies is Sometimes Impossible”, Western Roofing Magazine, Jan/Feb, 1994.

“Hurricane Force, Understanding and Minimizing the Risk of Wind Damage”, Western Roofing, Nov/Dec 1992 (Part I) and Jan/Feb 1993 (Part II).

“Role of Air-Retarders Deserves Closer Scrutiny”, Professional Roofing, October, 1991 (Listed as reference document in ANSI/SPRI RP-4-1997 “Wind Design Standard for Ballasted Single Ply Roofing Systems”).

“Acrylic Roof Coatings — Not a Quick Fix for Bad Damage”, RSI Magazine, October, 1990.

“Cold Weather Roofing Failures”, Proceedings - ASCE Cold Regions Engineering Conference, University of Minnesota, February, 1989, co-author Richard Knatterud.

“What Seems to be the Problem”, Roofer Magazine, February, 1988.

PRESENTATIONS (partial list)

2009 Title 24 Part 6 – 2008 Energy Code Updates”
RCI, San Francisco & San Diego, California.

2008 “Rooftop Photovoltaic – How To Save Money on Energy and Avoid Spending It All On Roof Repairs”, RICOWI Seminar, Charleston, South Carolina.

PRESENTATIONS (continued)

- 2008 "California Cool Roofs – 2008 Energy Code Updates"
WESTCON Meeting, Oakland, California.
- 2007 "Wind Design - ASCE 7-05, Minimum Design Loads for Buildings and Other Structures" RCI SoCal Chapter 'Road to the RRC' Lecture Series, Los Angeles, California
- 2006 "Cool Roofs and Code in California – A Consultant's Perspective,"
RCI Convention, Phoenix, Arizona
- 2005 "Performance of Low-Sloped Roofs during Hurricane Ivan – Team 4," Preliminary Report, RICOWI Wind Investigator Program, Miami, Florida
- 2004 "Reroofing & Re-Waterproofing – How to Select Appropriate Systems"
RCI Winter Workshop, Honolulu, Hawaii
- 2003 "Roof Moisture Surveys – How Do Different Methods Compare?"
RCI/WSRCA Convention, Las Vegas, Nevada
- 2002 "Why Roofs Leak"
Association of Facility Engineers, Santa Clara, CA
- 2002 "Retrofitting with Lightweight Insulation Concrete – Tips to Avoid Surprises"
RCI Winter Workshop, Honolulu, Hawaii
- 2002 "Condensation – The Hidden Source of Moisture"
ASCE Forensic Engineering Technical Group, Irvine, California
- 2000 "Roof Wind Damage – Causes and Progression"
RICOWI Wind Investigation Program, Reno, Nevada
- 1999 "Code Considerations" and "Life Cycle Costing" Lectures
Roofing 2000 Seminar, San Mateo, California
- 1999 "Roof Wind Design" and "Thermal Insulation" Lectures
RCI Advanced Roof Consulting, Oakland, California
- 1998 "Condensation in Non-Vented Roofs"
RCI Building Envelope Symposium, Chicago, Illinois
RCI Building Envelope Symposium, Oakland, California
- 1997 "Beyond 1-90, New FMRC 1-120, 1-150 and 1-180 Ratings"
RCI Technology Update, Oakland, California
- 1996 "Ways to Limit Contractor Liability"
National Roofing Legal Resource Center, Palm Springs, California
- 1996 "Roof Wind Damage Investigations"
RICOWI Wind Investigation Program, Oak Ridge National Laboratory, Oak Ridge, Tennessee
- 1995 "Roof Wind Damage — How It Starts and Progresses"
RICOWI Training Course, Ottawa, Canada
- 1995 "A Survey of Built-Up Roof Systems"
American Institute of Architects, Oakland California Chapter
- 1995 "Failures Due to Sun, Wind and Salt Air"
RCI Building Envelope Symposium, Southern California
- 1994 "Roof Coatings — A Consultant's Perspective"
Roof Coating Manufacturers Association

PRESENTATIONS (continued)

- 1994 "Tile Fastening Considerations"
Roof Consultants Institute, Oakland, California
- 1993 "Assessing Wind Damages - Hurricane Iniki"
Roof Consultants Institute, Honolulu, Hawaii
- 1993 "Roping In An Ally — The Professional Roof Consultant"
Single Ply Roofing Institute's 11th Annual Conference
- 1992 "Roof Decks and Ballasted Single Plys"
Western States Roofing Contractor's Association, Annual Convention

ACADEMIC HONORS

Graduated first in Civil Engineering, Class of 1976, University of Minnesota
Awarded Sommerfeld Grant for Academic Achievement
American Society of Civil Engineering Student Award

INDIVIDUAL AWARDS

- 1997 "Fellow of the Institute"
Roof Consultants Institute
- 1992 - 1993 "Outstanding Volunteer Award"
1994 - 1996 Roof Consultants Institute
- 1985 "Young Engineer of the Year Award"
Society of American Military Engineers

SPECIAL PROJECTS

- 2006 **Patent Infringement** – Validity analysis of patent involving tile roof systems.
- 2005 – **CA Title 24 Part 6** – Technical assistance to association of roof manufacturers
Present regarding California Energy Code (CA Title 24 Part 6)
- 2004 **Hurricane Damage (Ivan)** – Team leader, investigator and report writer as part of
Department of Energy/RICOWI study of roof system performance in Pensacola,
Florida in wake of Hurricane Ivan.
- 2000 – **Manufacturer's Advisory Panels** - Invited to participate as consultant on advisory
2006 panels to manufacturers regarding attributes and limitations of current and proposed
roof products (Johns Manville, Georgia Pacific, CertainTeed)
- 1989 – **University of California** - Condition evaluations, leakage investigations, specifica-
Present tions and drawings, repair recommendations regarding roof and waterproofing
considerations for several Halls on the Berkeley campus.
- 1999 – **County of Santa Cruz** - Schematic design, contract documents and construction
Present observations for several reroof projects over critical facilities. Design requirements
included completion of documents in a three-week period and restrictive controls on
"fume" and "noise" generation during reroof work.

SPECIAL PROJECTS (continued)

- 1996 – 1998 **San Francisco City Hall Restoration** - Member of consultant team for project that received the Building Design and Construction "Reconstruction Project" Award and the National Trust for Historic Preservation Honor Award.
- 1991 – 1998 **Mervyn's Stores** – Technical assistance on several projects including leak investigation, condition evaluation, reroof consideration, and earthquake damage.
- 1992 – 1997 **Pacific Bell Facilities, Northern California** – Schematic design, contract documents, and construction observations for several reroof projects of critical facilities including high-rise metropolitan and remote mountainous sites. Special design requirements to maintain weather protection during code level windstorms and moderate seismic events.
- 1997 **Spelling Mansion, Los Angeles, California** – Expert consulting and trial testimony regarding roof systems on Los Angeles, California, Spelling Residence.
- 1995 **Disney Sound Stages 6 & 7** – Design and consultation services regarding PVC roof and building envelope.
- 1991 – 1994 **Kaiser Medical Centers** - Roof management programs for seven (7) medical centers with over 300 roofs and more than 800,000 square feet of roofing.
- 1995 - Present **Historic Preservation** - Technical consulting and reroof document preparation regarding reroofing of historic structures. Roof systems include clay tile, sculpted wood shingles, slate, tin and flat-seam copper.
- 1989 – Present **Dispute Resolution** – Expert consulting and expert witness assistance regarding roof and waterproofing legal claims. Participated in mediations, settlement conferences, arbitrations, depositions and/or trial testimony in over 50 actions.
- 1989 – Present **Insurance Claims** – Investigation into causes and extent of damage claims to low-sloped roofs, steep-sloped roofs, and to waterproofing systems due to hail, wind, and fire.
- 1997 **NFPA Firewise Construction** – Technical input and peer review for National Fire Protection Association (NFPA) task group for "Firewise Construction" videotape series.
- National Wind Design Standards** – Participated on canvassing committees and assisted in development of commentaries:
- 2003 ANSI/SPRI ES-1 "Wind Design Standard for Edge Systems Used with Low Slope Roofing Systems.
- 1996 - 2001 ANSI/SPRI RP-4-1997 "Wind Design Standard for Ballasted Single-Ply Roofing Systems."
- 1994 - 1996 **Wind Research Project** – Served on Steering Committee for Roof Edge Metal Research at Texas Tech University in Lubbock, Texas.
- 1996 **NRLRC Mock Trial** – Invited to participate as expert witness in mock trial as part of National Roofing Legal Resource Center Seminar "Ways to Limit Contractor Liability" in Palm Springs, California.
- 1994 **Earthquake Damage** – Assistance to client on Southern California low-sloped and steep-sloped roof projects after Northridge Earthquake.
- 1993 **Hurricane Damage** – Assessment of wind damages to roofs on island of Kauai, Hawaii, following Hurricane Iniki.