

THE EXPERTS Robson Forensic

RENE I. BASULTO, P.E., MSEM, CGC, CFEI
Mechanical Engineer - Building Systems
General Contractor

PROFESSIONAL EXPERIENCE

2010 to present **Robson Forensic, Inc.**
Associate

Provide technical investigations, analysis, reports, and testimony toward the resolution of commercial and personal injury litigation involving all aspects of mechanical systems for buildings, construction practices, safety, and construction management. Areas of expertise include:

HVAC:

- Load calculations and system design, installation, service and maintenance.
- Central chilled water plants, DX, closed circuit fluid coolers, chillers, cooling towers, variable refrigerant flow, process cooling systems.
- Controls: temperature and humidity control, safety, energy management, DDC.
- Distribution: air handlers and ductwork, pumps and piping, noise control, fire safety, variable air volume.
- Ventilation: outdoor air, sick building syndrome, indoor air quality, energy recovery, grease laden air systems, restaurant ventilation systems, smoke control, clean room environment systems.
- Legionellosis risk assessment and reduction.

Plumbing, Water and Sewage:

- Domestic cold and hot water: temperature controls, water hammer and surge suppression, washdown systems, waste water treatment, domestic water treatment and disinfection, flooding, scalding.
- Sewage systems: gravity and pumped, grease interceptors, sludge dewatering, sludge pumping station, odor control, overflows.
- Storm drainage: gravity and pumped oil sand interceptors, overflows.
- Gas systems: natural and propane gas, gas piping, regulators, appliances.
- Swimming pools: design, filtering, drainage, and safety.
- Legionellosis risk assessment and reduction through design of domestic water systems.

Industrial Systems:

- Process: high pressure air and steam, hydraulic systems, ammonia refrigeration, flash mixing, pumps and controls, flare systems, digester gas systems, engines, generators. Medical gas systems. Explosion-proof equipment.
- Air quality and ventilation: fans, ductwork, exhaust hoods, fans, blowers. Clean air systems, wet scrubbers, carbon absorbers, cyclone separators, dust collection, biofilters, activated carbon filtration, odor control, clean room production areas.
- Compressed air system, factory preassembled and custom built.

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Electrical:

- The National Electric Code
- Electrocutions, shock & lightning activity: Evaluation of Causation of Shocks originating from electrical faults due to electrical explosions, arc flashes, lightning damage.
- Illumination/Lighting: field measurement of lighting levels, analysis of adequacy of illumination levels for compliance with codes, standards and practices for egress and work place safety.
- Safety of electrical systems with include controls, lock-out/tag-out procedures, personal protection equipment (PPE)
- Underground and overhead transmission and distribution cables, transformers, circuit breakers, contactors, relays, fuses, short circuit analysis and grounding.
- Swimming pool electrical systems and grounding to prevent electric-shock or electrocution.

Fire Science and Fire Protection Engineering:

- Thermodynamics, heat transfer, fluid mechanics, combustion, fire safety, smoke movement.
- Wet, dry, and double interlock preaction sprinkler systems, in-rack systems, stand pipe, ESFR systems, Halon/FM200 suppression systems, fire pump systems, jockey pumps, vertical turbine fire pumps, water storage tanks and ponds, hydraulic analysis.
- Fire alarm systems, heat detectors, smoke detectors, carbon monoxide detectors.
- Fire & Explosion Investigation, determine cause and origin.
- Commercial cooking operation fire extinguishing systems.

Sound/Acoustics:

- Sound absorption and control analysis to determine compliance with prevailing codes, standards and practices.
- Field measurement and analysis of sound levels caused by equipment, construction, or other sources.

Construction and Construction Management:

- Network critical physical infrastructure, industrial, institutional, residential and commercial construction.
- Experience as construction manager, general contractor, subcontractor, and material supplier.
- Construction claims analysis
- Critical Path Method (CPM) scheduling & analysis
- Construction safety
- Construction defect analysis
- OSHA-30-hour Construction Industry Card
- Construction cost estimates.
- Natural Disaster damage assessment

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- Building construction including:
 - Site work (earthwork, paving, landscaping)
 - Concrete (precast, cast-in-place)
 - Masonry
 - Metals (structural steel, joists, decking, ornamental metals)
 - Wood (rough carpentry, finish carpentry, framing)
 - Thermal and moisture protection
 - Doors and windows
 - Finishes (gypsum drywall, tile, ceilings, flooring, paint, wall covering)
 - Fire proofing, fire separation, and fire & life safety
 - Industrial process and production equipment installation
 - Equipment and Specialties (data centers, telecom, CCTV)
 - Emergency Back-up Power Generation
 - Large scale data and telecommunication centers

Types of Facilities:

- Educational, bio-pharmaceutical, healthcare, food and beverage processing and packaging, bio-labs, R&D labs, clean room environments, vehicle maintenance, commercial, retail supermarkets, data centers, hospitality, residential, fueling stations, natatoriums, swimming pools, and spas.

2007 to
2014

University of Miami – School of Architecture

Part-time Faculty - Professor

Teaching Graduate and Undergraduate level courses in Building Systems with concentration on renewable and sustainable design.

Subjects include but not limited to:

- Environmental systems, heating, air conditioning and ventilation.
- Plumbing waste systems
- Storm water systems
- Water distribution systems
- Waste water treatment
- Portable water treatment and purification
- Building management systems
- Building egress and safety
- Illumination
- Acoustics
- Electrical systems
- Fire and Life Safety systems and construction
- Fire protection & suppression systems

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2002 to present **Basulto Construction, Inc. – General Contractor, Design Builder**
President and Qualifier
General Contractor and Builder providing services for several industrial, pharmaceutical, data centers, commercial, and residential projects. Certified APC Gold Partner.

Projects include:

- Production Cleanrooms, and Laboratories
- Large Compressed Air Systems
- Swimming pools
- Spas
- Residential
- Network Critical Physical Infrastructure
- Emergency Back-up Power Generation
- Large scale data and telecommunication centers

1993 to present **Basulto & Associates, Inc. Consulting Engineers**
Principal
Professional engineering firm providing mechanical, electrical, plumbing and fire protection consulting design services. The firm specializes in the design, construction management, plan review, and code compliance inspections of commercial, industrial, educational, recreational, swimming facilities, medical, pharmaceutical, nutraceutical, and governmental projects in the public as well as the private sector.

1989 to 1993 **Pinera-Basulto, Inc. Consulting Engineers**
Principal, Director of Engineering
Designed and managed construction for HVAC, plumbing, fire protection and process systems in a variety of commercial, industrial and educational buildings.

1988 to 1989 **Wolfberg, Alvarez and Associates**
Mechanical Engineer
Designed HVAC and other mechanical systems. Projects include: 10 story VA Medical Center in Palm Beach, Miami Mac Arthur North High School, and several projects for the US Corps of Engineers, GSA and Miami-Dade County Public Schools.

1987 to 1988 **The Trane Company**
Instructor/Training Coordinator – Field Service Administrator
Trane is a manufacturer of HVAC equipment which includes compressors, chillers, air moving equipment, heaters, etc.
Responsibilities included:

- Providing technical and educational support on special applications and service to HVAC Contractors and Engineers.
- Coordinating training programs for Trane’s personnel and dealers service.

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- Troubleshooting equipment and coordinating factory investigation of failed components, sending components back to factory to determine causation of failure.
- Field implementation and testing of new technologies, variable speed equipment, high efficiency compressor/condensing units, multispeed compressors/systems.

1980 to **Llorens-Pinera, Inc. Consulting Engineers**

1987 *Mechanical Engineer, Associate Director Mechanical Engineering*

Designed mechanical systems for a wide variety of commercial and industrial projects FP&L, Publix Supermarkets, B&B Markets, and Walgreens among others.

1978 to **Insta-Service Air Conditioning Contractor**

1980 *Installer, Service Technician*

Installed and serviced air conditioning systems for residential and commercial properties.

PROFESSIONAL CREDENTIALS

Professional Engineer: Alabama, Connecticut, Florida, Georgia, Louisiana, Mississippi, North Carolina, South Carolina, Tennessee, Texas, US Virgin Islands
Registered Mechanical Inspector, International Code Council
Registered Mechanical Plans Examiner, International Code Council #476
Certified General Contractor, Florida
Certified Plans Examiner, Florida
Certified Inspector, Florida
Certified Fire and Explosion Investigator (CFEI), National Association of Fire Investigators
Certified Plant Engineer (CPE), Association for Facilities Engineering
Certified in Plumbing Design (CIPE / CPD), American Society of Plumbing Engineers
Network Critical Physical Infrastructure (NCPI) - Certified
Environmental Mold Inspection & Remediation Certified
U.S. Green Building Council: LEED AP
OSHA 30-hour Construction Card

EDUCATION

Master of Science in Engineering Management (MSEM)

Florida International University, College of Engineering and Computing

Bachelor of Science in Mechanical Engineering (BSME)

Florida International University, College of Engineering and Applied Sciences

Heating, Ventilation and Air Conditioning Professional Certification

Florida International University, College of Engineering and Applied Sciences

Associates in Arts, Engineering Degree

Miami-Dade College

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Continuing Education

Worksite Safety 06: OSHA Scaffolds, 4/08/18

Ethics for Florida Building Inspectors, 12/4/17

Florida: Building Inspector's Laws & Rules, 11/29/17

Building Systems for Designers - Electrical Appliances and Communications Equipment

Bath Planning: Accessibility in Practice, 11/27/17

2014 Florida Building Code® Advanced 5th Edition: Significant Changes to the Building Code – Internet, 11/27/17

Ethics for Professionals, 05/17/17

Florida Engineering Laws and Rules, 05/17/17

CxEnergy 2017 Conference, April 2017

Courses include:

Maintaining Temperature and Humidity in Critical Zones

Optimizing Chilled Water Systems for Energy Efficiency and Occupant Load

Building Enclosure Commissioning: Growing Trends in Higher Energy Performance & Operational Excellence

Discover How Much Water You're Using and Use that Information to Optimize Your Facility

AABC Test & Balance Seminar for CxA's, Engineers & TAB Professionals

Measurement Verification of Heat for Thermal Energy Credits

Performance Testing for the Enclosure

Commissioning of cGMP and Laboratory Systems

International Association of Arson Investigators, August 2017

Courses include:

Arc Mapping Basics

Basic Electricity

Digital Photography and the Fire Investigator

Documenting the Event

Explosion Dynamics

Introduction to Evidence

Physical Evidence at the Fire Scene

Residential Electrical Systems

Electrical Safety

Investigating Natural Gas Systems

Thermometry, Heat, and Heat Transfer

Electrical and Arc Flash Hazards, 11/2016

Arc Flash Hazard Analysis, 11/2016

Wind Mitigation: Roof Decking, Secondary Water Barriers & Gable End Bracing, 8/2016

2014 Florida Building Code Advanced 5th Edition: Plumbing Summary of Significant Changes, 8/2016

Florida Workers' Compensation Law (V15), 8/2016

FL Statutes, Chapter 489, Section 101-114: Construction Contracting, 8/2016

Safety Management, 8/2016

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OSHA 30-hour Construction Industry Health & Safety Certification, 11/2015

Courses include:

Managing Safety & Health	Fall Hazards
Electrocution	Materials Handling
Caught By or Between Hazards	Scaffolding
Personal Protective Equipment	Concrete and Masonry
Construction Health Hazards	Hand & Paper Towels
Stairways and Ladders	Fire Prevention
Crane Safety	Steel Erection
Excavation Safety	Motor Vehicles, et al.
Welding and Cutting	Supervisor SHE Responsibilities
Confined Spaces	Observing/Correcting Unsafe Behaviors
Ergonomics	Preventing Injuries & Incidents
Safety & Health Programs	Introduction to NFPA 70E
Leading Cultural Change	

Florida Building Inspector's Laws and Rules, 11/2015

Ethics for Florida Building Inspectors, 11/2015

Hospital Filtration Systems & Airborne Contaminant Control, 10/2015

Methods of Air Distribution in Hospitals, 10/2015

Hydronics and the Effects of Variable Speed Screw Chillers, 10/2015

Building Pathology: An Introduction, 5/2015

Building Pathology: Utilities, Environmental & Protection Systems, 5/2015

Building Pathology: Materials Pathology, 5/2015

Building Pathology: Site Drainage Problems, 5/2015

Building Systems for Designers Water Supply, Distribution, and Waste Systems, 5/2015

Building Systems for Designers Heating and Cooling Systems, 5/2015

Green Building Envelope Design Webcast, 5/2015

Green Design: Sustainable Water Systems in Buildings, 5/2015

Cost Estimating: Fundamentals, 5/2015

Ethical Decision Making for Engineers #2, 5/2015

Ethical Decision Making for Engineers #3, 5/2015

Florida Engineers' Laws and Rules V.13, 2/2015

Safety: Developing an Employee Safety Orientation Program, 9/2014

Leak Detection for Roofs, 9/2014

Understanding Workers' Compensation for Employers V14, 9/2014

Plumbing: Tips, Tricks and Tools, 9/2014

Concrete Fundamentals II Concrete - Slab on Grade, 9/2014

Storm Safe Homes: Building a Safe Room, 9/2014

Professional Painting, 9/2014

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Florida Construction Lien Law, Chapter 713, 9/2014
Florida Building Code Advanced 2010: Residential Floors, 9/2014
FL Statutes, Chapter 489, Sections 101-114: Construction Contracting [V.02], 9/2014
ADA Guidelines 2010: General Site and Building Elements, 9/2014
Florida Wind Mitigation Retrofit Requirements for Existing Buildings [V2], 9/2014
Business Management: Brief Overview, 9/2014
ADA Guidelines 2010: Accessible Routes, 10/2013
Ethics for Florida Building Inspectors, 10/2013, 10/2015
Florida: Building Inspector's Laws & Rules V.13, 2011, 10/2013, 10/2015
2011 NEC Code Change Articles 90-110, 10/2013
Florida Building Code Advanced 2010: Fixtures, Faucets and Fixture Fittings, 6/2012
Wind Mitigation: Roof Decking, Secondary Water Barriers & Gable End Bracing, 5/2012
Pricing as a Professional, 5/2012

PROFESSIONAL AFFILIATIONS

American Society of Heating, Refrigeration & Air Conditioning (ASHRAE)
American Society of Plumbing Engineers (ASPE)
Chapter VP-Technical 1996-1999
Association for Facilities Engineering (AFE)
Chapter Secretary 2001-2003
Association of Cuban Engineers
President 1992-1993
Building Commissioning Association
Engineering Management Honor Society, Epsilon Mu Eta – Beta Delta Chapter
International Code Council (ICC)
National Council of Examiners for Engineering and Surveying (NCEES)
National Fire Protection Association (NFPA)
National Association of Fire Investigators (NAFI)
Induction into Order of the Engineer, 2014

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PUBLICATIONS and PRESENTATIONS

“Water Quality & Minimizing Microbial Growth through Design,” (Presenter) Puerto Rico College of Engineers Continuing Education Seminar, San Juan, Puerto Rico, October 16, 2015.

Basulto, R. (8/18/2015) “Legionnaires Disease- Expert Article on Recent Outbreak and Changing Standards.

Basulto, R. (2015) “Legionellosis Standard of Care on the Horizon,” Georgia Defense Lawyers Association, Publication May 2015.

“Water Quality & Minimizing Microbial Growth through Design,” (Presenter), Bavaro Group Hotels and Municipal Infrastructures, Punta Cana, Dominican Republic, February 2015.

Basulto, R. (2012) “Domestic Water Pipe Sizing Considerations Using Cross-linked Polyethylene (PEX)” white paper for Viega Group, (English and Spanish versions).

“Understanding the International Green Construction Code (IgCC), Implementation, Design and Practice Issues”, (Presenter) American Institute of Architects (AIA) Florida Convention, Tampa, Nov, 2012.

SPORT & RECREATION EXPERIENCE

Boy Scouts of America

- Scoutmaster, Troop 660, South Florida Council 2017-current
- Assistant Cubmaster/Den Leader, Pack 660, South Florida Council, 2015-2017
- Merit Badge Counselor
- First Aid Certified
- CPR/AED Certified
- Event planning and coordinating
- Youth Protection Trained
- Program Safety Trained
 - Hazardous Weather Training
 - Safe Swim Defense
 - Safety Afloat
 - Climb On Safely
 - Drive Safely