

FIELD & TEST ENGINEERING, Inc.
ACCIDENT RECONSTRUCTION SPECIALISTS
Highway, Street & Offsite Facilities – Safety & Analysis
4510 Pacific Coast Highway, Suite 200 • Long Beach, CA 90804
Southwest Executive Suites - El Paso, Texas
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MANUEL F. AGUILERA, P.E.

QUALIFIED IN SUPERIOR COURT TO TESTIFY ON:

Traffic Engineering, Roadway and Roadside Design and Construction, Off Road Safety, Human Factors, Roadway/Roadside Design, Construction and Maintenance

SPECIALIZING IN

***Traffic Engineering:**

Permanent and Work Zone Traffic Control / Traffic Signals / Signs / Striping / Parking & Off Road Facilities / Bridge Signals / Barriers including Guardrail / Speed Limits / Run-Off-Road Accidents

***Design of Roadways (Highway, Street & Off Road Facilities):**

Geometric Alignment / Hydraulics-Hydrology (Drainage and Drainage Structures) / Traffic Control Devices / Barriers / Sight Distance / Traffic Signals / Signs / Pavement Striping and Markings / Delineators / Bridges / Sidewalks, Curbs & Gutters

***Roadside Design - Off-Lane Portions of Roadway Environment:**

Clear Zone Requirements / Sidewalks / Parking Areas / Side Slopes / Obstacles (Natural or Designed) / Landscaping / Erosion Control / Sidewalks & Parking or Road Facilities / Barriers (including Guardrail) / Break-a-Way Bases & Poles

***Roadway Construction and Maintenance:**

Work Zone Traffic Control Implementation / Movable & Temporary Traffic Signals / Traffic Control Plans / Adherence to Plans & Specifications / Constructability / Plan Continuity / Roadways/Walkways/Parkways / Potholes, Edge Drops on Roads, Streets, Parking Areas, Walkways and Crosswalks

***Human Factors:**

Driver Expectancy / Traffic Control & Devices

PROFESSIONAL EXPERIENCE:

Field & Test Engineering, Inc. - **Traffic and Roadway Safety Engineer** - Road and off-road accident safety investigation, research and analysis (January 2005 to the Present)

Aguilera & Associates – **Senior Transportation Engineer** - Traffic/Transportation/Civil Engineering Consultant (2004 to the Present)

Texas Department of Transportation - **Deputy District Engineer** – Principal Assistant to the District Engineer, together directed/managed all District Operations including planning, design, construction and maintenance of the District multi-modal transportation system. Worked with other agencies and counsel in resolving tort issues and providing litigation support (1992 to 2003)

Texas Department of Transportation - **District Transportation Planning Engineer** – Managed and supervised all District planning and traffic engineering personnel including Engineers preparing Traffic Control Plans for the District. Also served as District Traffic/Transportation Expert Witness for the attorney general's office in various tort claims and worked with other agencies and counsel in resolving tort issues and providing litigation support (1990 to 1992)

Texas Department of Transportation - **District Traffic Engineer** – Managed and supervised all District traffic engineering personnel for all Traffic Signal, Signage and Striping design, construction and maintenance for the District. Designed the El Paso City/State Traffic Signal Central Computer System controlling most of the City's Traffic Signals as well as the first interactive "Run-a-way" Truck Ramp detection system and also designed the current Border Patrol inspection station's signing standards used throughout Texas. Created and was responsible for El Paso's Freeway Surveillance and Management System. Since Maintenance was a part of the Operations Division, was also intimately involved with maintenance activities in the District (1975 to 1990)

PROFESSIONAL EXPERIENCE: (Cont'd)

Texas Department of Transportation - **Design Engineer** – Designed the US 54 Freeway Frontage Road storm drain system. Provided design for a four level bridge structure Freeway Interchange connecting Interstate 10 and US Route 54 including horizontal and vertical alignment, lighting and drainage systems. Supervised design of various other Freeway, Highway and Street projects. Provided design support for numerous projects under my design after they went to construction (1967 to 1975)

REGISTRATION:

Professional Engineer, Texas (Number 30117)

TEACHING EXPERIENCE:

Texas A & M University, College Station, Texas - **Traffic and Transportation Engineering** – gave various presentations for short courses on Traffic and Transportation Engineering taught to Engineers throughout the State sponsored by the Texas Department of Transportation - (1980-1990)

Texas Department of Transportation, Austin, Texas - **Traffic Control in Construction and Maintenance Work Zones** - (1988-1993)

Semi-Annual Meeting of the Chiefs of Police in Mexico, Chihuahua, Mexico - **Traffic Management Systems** - (1996)

Semi-Annual Meeting of the Chiefs of Police in Mexico, Mazatlan, Mexico - **Traffic Control and Traffic Safety** - (1997)

EDUCATION:

Bachelor of Science in Civil Engineering - Texas Western, (University of Texas El Paso) (1964)

Northwestern University - Traffic Engineering Seminar (1976)

Numerous training courses sponsored by the Texas Department of Transportation

TECHNICAL BACKGROUND:

Traffic Engineering: Traffic Control (Permanent or Maintenance/Construction) adequacy including traffic signals, pavement markers, signs, barriers, guardrails, traffic control plans.

Geometric Roadway Design: Alignment, curvature, banking, speed limits, sight distance, bridges for freeways, highways and streets.

Hydraulics & Hydrology: Complete analysis and final design of roadway drainage systems.

Road & Street Construction & Maintenance: Have worked closely with construction and maintenance on renovations to major multi-lane freeway realignments and new alignments; and engineering surveying.

Roadside Design: Concrete barriers, guardrail, clearance to objects

Human Factors: Driver expectancy in the use of Transportation Facilities including roads/streets/walkways/parking areas; night time driving; human responses to various roadway traffic control devices.

TECHNICAL PUBLICATIONS:

“**Traffic Control in Construction and Maintenance Work Zones**” Design Training Curriculum for the Texas Department of Transportation Design Training Center in Austin, Texas - (1988)

“**Texas Manual on Uniform Traffic Control Devices**” - Contributed to / Reviewed - (1980-1989)

PROFESSIONAL CERTIFICATIONS AND AFFILIATIONS:

1995-1999 - Texas Transportation Institute (TTI,) College Station, Texas – TxDOT member of Engineering Research Team to determine crash worthiness of barriers and other Traffic Control Devices

1995 - Texas Department of Transportation award for outstanding service in the field of Traffic Operations.

1995 - University of Texas at Austin, Center for Transportation Research award for excellence as special project director for the Texas Department of Transportation. *

1988 - Co-Chair of the Headquarters' Design Training Task Force - developed the Design Training Program for Engineers in the Texas Department of Transportation.

1980-1989 - Member of the Reviewing Engineers for proposed changes to the Texas Manual on Uniform Traffic Control Devices

1980-1989 - Member of the Texas Department of Transportation's Committee on Traffic Signals and also the Committee on Pavement Markings