



Roger R. Machut, P.E., LEED AP

Civil Engineer

Professional Profile

Mr. Machut has over 35 years of practical professional experience in civil engineering, in both design and construction applications. Combined with decades of leadership positions held within various organizations, Mr. Machut has developed a unique ability to express the complex in ways understandable to individual audiences, allowing each group to take action or make a decision. As a solution creator, he equally identified root causes of failures, inefficient methodologies, and unsustainable construction. Mr. Machut's engineering expertise is supplemented by his business and leadership experience. Adding to his total professional credentials is the Mr. Machut's 33 years of service in the United States Marine Corps, from which he retired as a Brigadier General.

Areas of Expertise

Site & Land Development
Project Management
Roadway Design
Stormwater Management
Storm & Sanitary Sewer Design
Mold Inspection

Utility Design
Surface and Groundwater Flooding
Bituminous and Concrete Pavement Design
Runway Pavement Design
Pedestrian Path Design

Professional Experience

Solution Engineering Group – Montgomery, Illinois
Senior Civil Engineer

April 2019 - Present

Siteline Interior Carpentry, Inc. – Chicago, Illinois
Vice President, Strategy & Development
Monitored, revised & improved whole business procedures to promote sustainable nationwide revenue growth.

March 2015 – March 2018

Brigadier General, U.S. Marine Corps

August 2010 – May 2015

Commanding General of several major commands, focused on military logistics (supply, engineering, medical, dental, communications, maintenance support). Performed duties in both active duty and reserve duty status.

Packer Engineering, Inc. – Naperville, Illinois

October 2010 – January 2012

President

Oversaw business operations

Performed failure analysis and investigations on civil engineering related issues involving roadway, pavements and airfields.

Patrick Engineering, Inc. – Lisle, Illinois

June 2007 – June 2009

Manager of Facilities and Industrial Infrastructure

Led a multi-disciplined group of engineers in design and design-build projects for industrial based clients

Wight & Company – Darien, Illinois

February 2006 – June 2007

Manager of Infrastructure Engineering

Led a staff of civil engineers on design and design-build projects, emphasizing sustainable design.

Focused effort in stormwater management, site design, soil engineering, project estimation for educational, military and medical facilities.

Civiltech Engineering Inc. – Itasca, Illinois

March 1993 – February 2006

Associate

Supervised a staff of civil engineers and technicians on projects involving site design and roadway design. Numerous roadway and transportation projects perform from conceptual design through construction, involving multi-lane road reconstruction, bridge and intersection improvements, traffic calming and congestion mitigation, for federal, state, county and municipal agencies.

City of Des Plaines – Des Plaines, Illinois

January 1992 – March 1993

Assistant City Engineer

Appointed position with suburban Chicago city of 58,00 residents. Oversaw the roadway pavement management program for the city streets. Oversaw stormwater and flood control projects. Reviewed and approved residential and commercial parcel developments plans for conformance to city and state standards.

Skidmore, Owings & Merrill – Chicago, Illinois

April 1987 – December 1991

Designed civil engineering projects in support of international and national architectural projects, with focus on utility design, roadway design and geometric layout.

Officer, United States Marine Corps (Active and Reserve)

May 1982 – May 2015

Combat Engineer Officer. Performed expeditionary design and construction of vertical and horizontal projects, mobile electric and water utilities, bridging, earthwork projects, bulk fuel storage and movement. Constructed roadway and engineering projects in foreign countries. Combat experience as an engineering battalion commander. Career culminated with promotion to Brigadier General in 2010; retiring after 33 years of service.

Academic Background

Master of Science in Strategic Studies

U.S. Army War College, Carlisle, Pennsylvania

Bachelor of Science in Civil Engineering

Tulane University, New Orleans, Louisiana

Additional Professional Certifications

LEED Accredited Professional

Certified Mold Inspector

Summary of Civil Engineering Investigative Projects, Reports and Testimony

- Investigated and determined the root cause and contributing factors of an automobile accident, in which the vehicle crashed through a failed protective bridge railing, resulting in grievous bodily injury. Retained by the plaintiff.

- Investigated an alleged trip and fall incident on a public sidewalk, resulting in personal injury, concluding with a report authored with findings and professional opinions. Retained by the defense.
- Investigated and determined the root cause of a bituminous pavement failure, authoring a report with findings and opinions. Retained by the defense.
- Investigated and determined the root cause of a chronic flooding condition in a Historic Black Cemetery, which resulted in grave desecration. Retained by the plaintiff.
- Investigated and determined the root cause of a collapsed access cover on an interior basement floor, through which the plaintiff fell and sustained injuries. Authored a report with findings and opinions, and named as an expert witness, providing deposition testimony. Retained by the plaintiff.
- Investigated and determined the root cause of premature deterioration in prefabricated telecommunication buildings, authoring a detailed report on the findings and opinions, and developed a remediation plan. Retained by the defense.
- Determined the cause of an explosive force on a reinforced concrete floor due to high temperature forging ovens, preparing a report of findings and opinion. Retained by the owner.
- Examined design and maintenance program of a bituminous roadway pavement at a large municipal airport, alleged to be the cause of a motor equipment accident with injuries. Prepared a report and provided deposition testimony regarding the findings and professional opinion. Retained by the defense.
- Examined the design of a concrete runway at a small municipal airport to determine whether rainfall runoff was a contributing factor to a plane crash following a rain event and prepared a report on professional findings and opinion. Retained by the defense.
- Investigated the cause of and prepared a report on a residential basement flooding incident due to a malfunctioning water well pump system. Retained by the owner.
- Investigated the cause of recurring basement flooding in a senior residence home due to groundwater movement. Retained by the owner.
- Investigated neighborhood flooding allegedly caused by runoff discharge from a small municipal airport and prepared a report of findings and opinion. Retained by the defense.
- Investigated contributing factors of a slip and fall injury on the exterior sidewalk of a hotel allegedly due to freezing snowmelt runoff, preparing a report on findings and opinion. Retained by the defense.
- Investigated the condition of a privately-owned and maintained condominium parking lot as a potential cause of an alleged slip and fall injury. Conducted and documented on-site surface water testing and provided comparative analysis to similar local properties. Prepared a report on findings and opinions and provided deposition testimony. Retained by the defense.
- Investigated the cause of a continuous runoff flow from one property onto an adjacent parcel. Determination was found to be caused by naturally accruing groundwater elevations. Prepared a report on findings and opinions. Retained by the defense.

Summary of Professional Engineering Design and Construction Projects

The following project descriptions are a sample of the hundreds of projects performed for private, municipal, state, county, federal and industrial clients over a 30-plus year career.

- Vernon Hills Athletic Complex – Supervised the design and construction of a 41-acre overgrown site, formerly the site of U.S. Army Nike Missile base and a U.S. Navy Airfield. Acquired by the Vernon Hills Park District and three local school districts, the site was converted to multiple use recreational playing fields, to include a football stadium, baseball complex, soccer fields and tennis courts. Re-use of the concrete airfield, extensive earthwork and complex stormwater management were key design aspects of this project. A HEC-RAS stormwater model was developed to analyze the management of stormwater runoff from the site during various rainfall events. Negotiated cost sharing between agencies and compliance with federal and local permit standards were additional critical tasks.
- Fairway Drive, Vernon Hills – Designed the four-lane bituminous roadway built through the developing Vernon Hills Athletic Complex in order to create an arterial connector through the middle of the village. The design included water, gas, electric and sewer connections through this previously undeveloped area.
- Butterfield Road Widening and Reconstruction, Vernon Hills – Designed this five-lane county road reconstruction, which included a railroad crossing, new storm and sanitary sewers, water mains, and two interconnected traffic signals. With the introduction of significant super-elevation along several curves, resulting in significant grade changes, maintenance of traffic and right-of-way land acquisition were critical features of this design.
- West Hall, Elmhurst College, Elmhurst, Illinois – Designed the site supporting a new dormitory on an established suburban college campus. The significant design feature of this site was the development of a deep, large aggregate-filled pit used for stormwater detention, over which a permeable paver system was used to support a parking lot.
- Atlantic Fleet Drill Hall, Great Lakes Naval Training Base, North Chicago, Illinois – Designed the site to support a new residential training facility aboard the only recruit training center for the U.S. Navy. Unique to this design was the requirement for anti-terrorism features for personnel protection.
- Canadian National Railroad Grain Trans-loader Facility, Harvey, Illinois – Designed and oversaw the construction of this new facility which supported the transfer of grain from railway cars to overseas shipping containers or truck trailers.
- River Modeling, East Branch of the DuPage River, Addison, Illinois – In support of a roadway widening project, the storm flows for a section of the DuPage River was modeled, using the FEQ program, in order to properly size a proposed box culvert.

- Location Drainage Study Route 31 Western Bypass, Algonquin, Illinois – Prepared an Illinois Department of Transportation mandated Location Drainage Study to support the proposed elevated roadway bypass of a major state route located in a congested downtown area. Created a HEC-RAS stormwater model to consider potential flood water impacts from a small tributary during various rainfall events, to include the backflow effects of the nearby downstream Fox River.
- Location Drainage Study, Washington Street, Gages Lake, Illinois – Prepared an Illinois Department of Transportation study for the Lake County Division of Transportation to analyze the impacts and potential means of mitigation for the proposed widening of a 2-lane county road, requiring increased pavement, utility relocation and property acquisition.