



*Carroll
Engineering*

STATEMENT OF QUALIFICATIONS

105 Raider Boulevard - Suite 206 | Hillsborough, NJ 08844 | Ph: 908-874-7500
www.carrollengineering.com

ABOUT US

Carroll Engineering is a multi-disciplined engineering and surveying firm founded in 1973 for the purpose of providing clients with a wide range of consulting services. We offer highly regarded professional services to a wide range of public, private, and institutional clients. Our departments within the firm act as consultants to each other, thus integrating all our knowledge, skills, and experience to ensure the most practical, efficient, and sophisticated solutions to every challenge. We identify and address potential problems at the earliest planning stage, then employ our innovative design approach for preventing difficulties and bringing our clients' projects to their successful completion.

Carroll Engineering currently has a staff of approximately ninety (90) individuals with our New Jersey office located in Hillsborough Township, Somerset County. We currently maintain a staff of over forty (40) licensed Professionals with state registrations in engineering, surveying, planning and geology. In addition to professional registrations, many of our staff have supplemental certificates and licenses, including LEED AP and Certified Municipal Engineer (CME).

SERVICES

CEC provides comprehensive services to our clients which include, but not limited to:

- Land Surveying
 - ALTA/ACSM Land Title Surveys
 - Construction Stakeout, As-Builts, Boundary and Topographic Surveys
 - 3-D Laser Scanning Surveying
 - Drone Services
- Land Planning and Site Design
- Feasibility Studies/Yield Analysis/Conceptual Plans
- Local, Regional, State, and Federal Permitting and Coordination
- Site Plans and Subdivisions
- Soil Erosion and Sediment Control Designs
- Utilities Engineering
- Water Resources Engineering
- Innovative Stormwater Management and Infiltration Systems
- Green Infrastructure Site Design
- Structural Engineering
- Water/Wastewater Engineering
- Environmental Compliance
- Traffic & Transportation Engineering
- Outdoor Lighting Design
- Active Recreation including Playing Fields, Running Tracks, and Stadiums
- Streetscape Design
- Construction Specifications and Inspection

“Carroll Engineering has been providing services to New Jersey American Water since 2017 and I have found them to be very responsive. Carroll Engineering has delivered high-quality work on a number of our projects including engineering, surveying, permitting, and inspection services. They consistently deliver excellent work in a very cost-effective way and continue to provide good customer service. We are pleased to be partnering with a talented company in the water and wastewater industry.”

–Michael Wolan, DBIA, Engineering Manager, Project Delivery North, New Jersey American Water

MARKET SECTORS

RESIDENTIAL

Working with developers and landowners since 1973, our civil engineers have helped shape the residential landscape throughout New Jersey. Our Carroll (CEC) professionals specialize in land development planning and understand the relationships between the needs of the developer and the potential constraints of the landscape. Our civil engineers begin the site planning process by performing due diligence to determine all potential zoning, environmental, infrastructure and utility service constraints that could impact the development. No matter the size of the project, site design begins with existing conditions and understanding the constraints of the land. From single family dwellings to multi-family developments (market rate and 100% affordable), we are experienced in all types of residential development. Our site designs invoke the latest green infrastructure strategies and balance the needs of our clients, environment, economy, and communities.

COMMERCIAL

CEC takes a vertical engineering approach for commercial site design. Commercial use projects, including retail, office, hotel, warehouses, and garages, begin with a site assessment for zoning, environmental, traffic, and utility services. With an accurate survey base map, a conceptual plan is prepared showing the proposed improvements, which could be new construction, redevelopment, or renovation. We advocate at the local, state and federal level as needed to gain the required approvals and permitting, and we participate in public hearings to gain local support. We provide the site engineering necessary to make the architect's vision a reality and also support the project by providing structural engineering services.

From years of experience with the design, approval and construction of retail facilities, financial establishments, and business campuses, CEC has a track record of completing successful commercial projects. We have achieved success through a commitment to responsiveness, communication, and flexibility regardless of whether we are working for end users or development companies.

EDUCATIONAL

The design of schools and institutions require a creative approach to ensure students have the most inspiring learning experience possible. Classrooms need to be comfortable and integrated with the latest technology. The open spaces on campus should be safe and environmentally sound to enhance the total learning experience. Site design elements include accessible routes, parking capacity, circulation, bus pick-up/drop-off areas, recreation, and landscaping. Green infrastructure design strategies will not only create a healthy environment to learn but also protect the environment beyond the boundaries of the school.

CEC has successfully completed many school projects by working closely with school administration staff to ensure that their needs are met. CEC, whether directly or through an architect, interactively collaborates with representative members of the administration, faculty, staff and/or students, and municipal officials to develop and document an understanding of project goals. A successful plan requires interaction and confirmation of goals throughout the design process. In cases of redevelopment or renovations, preserving the site's history and link to the community is a key goal.

REDEVELOPMENT

According to New Jersey Future, *“Redevelopment is reinvestment in neighborhoods and commercial areas to replace or repair previously developed buildings or plots of land that are in substandard condition or are no longer useful in their current state.”* Redevelopment is key piece of the smart growth initiative. By developing in existing areas with adequate infrastructure, environmentally sensitive lands are preserved. Often times an area within a municipality is designated an area of redevelopment by ordinance.

CEC has significant experience working with developers and municipal officials drafting a redevelopment plan for a particular site. Our professionals perform due diligence on a site to determine all environmental constraints and available utility services and assess the condition of existing infrastructure to sustain the proposed development. Once the redevelopment plan is approved, CEC will prepare site plans for Planning Board approval and obtain all necessary local and state approval and permits.

RENEWABLE ENERGY

The renewable energy industry is a constantly evolving market. The community solar program of New Jersey enables greater access of renewable energy to households in the vicinity of a solar facility. Subscribers of the community solar program will receive a credit on their utility bill. CEC has supported renewable energy developers by conducting due diligence, surveying, conceptual layouts, and preparation of site plans for ground mounted and ballast mounted solar facilities of all sizes. Whether the solar facility is located on a military installation or on top of a closed landfill, CEC works closely with our clients and municipal officials to develop the most cost-effective site design and obtain all necessary approvals and permits for construction.

MUNICIPAL/COUNTY

Since 1973, Carroll Engineering has been providing civil engineering and consulting services to municipalities and counties. With municipal engineering being one of our core business practices, many of our municipal clients have remained with us for many years. The reason is simple – at Carroll Engineering, we understand our clients’ unique needs, challenges and thinking.

We guide elected officials, administrators, and staff through a minefield of analyses of environmental, infrastructure and financial planning issues. We’ve also assisted municipalities in obtaining federal and state grants through the design and administration of funding application packages – grants that are available for localized improvements such as flood control, parkland development, highways, bridges, water-supply systems and wastewater treatment facilities.

Our municipal clients benefit from our services by receiving a comprehensive approach and having access to technical subject matter experts. Municipal clients working with Carroll Engineering experience efficiency and savings by relying on us for many services rather than hiring, managing, and coordinating multiple consultants.

CEC has a long history of municipal representation within our local communities. Our wide range of municipal engineering services include subdivision/land development plan reviews, zoning and land use planning, ordinance amendments, preparation of design plans and contract bidding documents for public works projects, stormwater and floodplain management, and construction consulting, administration and inspection.

UTILITY/AUTHORITY

Carroll Engineering has been a leader in providing water and wastewater engineering services for over 45 years. Our experienced staff stays up to date with the latest design methods, regulations, and state-of-the-art technology – provides total project assistance from the initial evaluation, studies, and design, to construction and administration and start-up operations.

We also offer experience in the planning, designing and construction management of wastewater and water systems, piping systems, pumping stations and treatment plants. Our experience ranges from permitting of source to the design of water supply, storage, treatment, and distribution facilities for small and large communities – with the overall goal of preserving natural resources. We provide solutions for tomorrow through far-sighted water and sewer infrastructure and environmental planning.

With critical infrastructure clients like Public Service Electric and Gas (PSEG) and New Jersey American Water (NJAW), we understand the needs for customers, security, regulatory compliance, fiscal responsibility, and environmental management.

RECREATION

Recreation plays a large role in everyday life. From nature trails and playgrounds to athletic fields and stadiums, people of all ages enjoy spending time outdoors. The design of playgrounds, parks, athletic fields, sport complexes, camps, and stadiums require coordination of several engineering and architectural disciplines. Carroll Engineering brings together site planning, civil engineering, landscape architecture and construction administration services to provide a practical and effective approach to meet the needs of public and private clients. Our professionals understand the balance between a successful recreational facility while preserving natural land. We are committed to sustainability while achieving your goals. We continue to be informed about new trends and technology to improve playability and safety. Our design experience includes sports complexes, nature trails, camps, playgrounds, athletic fields (grass and synthetic), community parks, and school track and field facilities.

SUSTAINABILITY

The most common definition of “Sustainable Development” is development that meets the needs of the present without compromising the ability of future generations to meet their own needs. Sustainability practices require solutions from a variety of perspectives, including but not limited to energy and water conservation, waste reduction, recycling, pollution prevention, and conservation of natural resources while balancing environmental, economic, and social responsibilities.

CEC has a strong background in sustainable design. Our land development group uses green infrastructure in site design to reduce stormwater impacts by allowing runoff to infiltrate, be treated by vegetation, and be stored for reuse. Green infrastructures practices include bio-retention, rain gardens, pervious paving, vegetated swales, and cisterns for reuse. Our approach to each site is to preserve environmentally sensitive areas and concentrate development on previously disturbed areas.

RESIDENTIAL

The Willows at Flemington Junction *Raritan Township, Hunterdon County, NJ*

CEC worked with the developer to prepare a redevelopment plan for two (2) township designated lots on Junction Road (County Route 647) in Raritan Township. The plan contained a conservation easement, wetlands, transition areas, and a JCP&L right-of-way. Once the redevelopment plan was adopted, CEC prepared site plans for an 84-unit 100% affordable housing community and obtained all required state and local permits for construction. The site design avoided disturbance to environmentally sensitive areas. The community consists of seven (7) apartment buildings, community center building, divided access drive, parking areas, green spaces, two (2) detention basins, tot lot, and walking trails. NJDEP Treatment Works Approval was obtained for a sewer extension to serve the community.



Dutch Lane Subdivision (100% affordable community) *Raritan Valley Habitat for Humanity, Bridgewater Township, Somerset County, NJ*

CEC designed a 10-lot subdivision with a cul-de-sac on Southside Avenue in the Township of Bridgewater. Nine (9) of the lots were designed for single family homes with a separate lot reserved for a stormwater management facility. This project was the largest of any kind that Raritan Valley Habitat for Humanity had ever undertaken. The property had environmental constraints, including the flood plain of Raritan River, wetlands, and transition areas. CEC prepared and obtained NJDEP stream encroachment permits to fill in a portion of the flood plain and raise the site above the flood hazard area design flood elevation established after Hurricane Floyd. The stormwater management system was designed to control onsite runoff in accordance with the NJDEP Stormwater Rules. Roadside swales were designed to collect road runoff, filter out pollutants, and provide recharge.



COMMERCIAL

Cornerstone Professional Center *Hillsborough Township, Somerset County, NJ*

CEC prepared a major site plan for a multi-story office building with 54 parking spaces with frontage on US Highway Route 206. The property was vacant measuring approximately 1.8 acres with no existing access to Route 206. Significant environmental constraints were present adjacent to the site that required NJDEP permits. The project required a sanitary sewer extension under Route 206 to the nearest public sewer system connection. The sanitary sewer extension was approved by local and regional authorities and the NJDEP granted the applicant Treatment Works approval. Working with NJDOT and NJDEP, the detention basin outfall pipe will be installed in the shoulder of Route 206 and discharge into a ditch south of the site. Working with an architect, the proposed building was sized and located to best fit in the narrow lot. The site development incorporated NJDEP Low Impact Development strategies, such as smaller parking spaces and aisles resulting in a reduction in impervious surfaces, grass swales, tree protection and limiting land disturbance.



Sentinel Data Center/ CyrusOne Data Center *Franklin Township, Somerset County, NJ*

CEC completed a major site plan for the conversion of a 200,000± S.F. warehouse building into a data storage center. The site development associated with the conversion included realignment of existing drives, minor building expansion, sidewalks, service yard, loading dock, and modifications to the existing detention basin. The data storage center required a new electrical substation on site as well as cooling towers (chiller plants) to be installed in the new service yard. Many new underground utilities and drainage were required in the service yard and substation. Coordination with all other project consultants and contractors was critical for the success of the project. The project required a NJDEP General Permit for minor disturbance to wetlands. The existing detention basin required minor modifications to the outlet structure to meet all local and state runoff quantity and water quality requirements. Recent improvements to the site included a building addition with parking, access, security, and utility improvements.



EDUCATIONAL

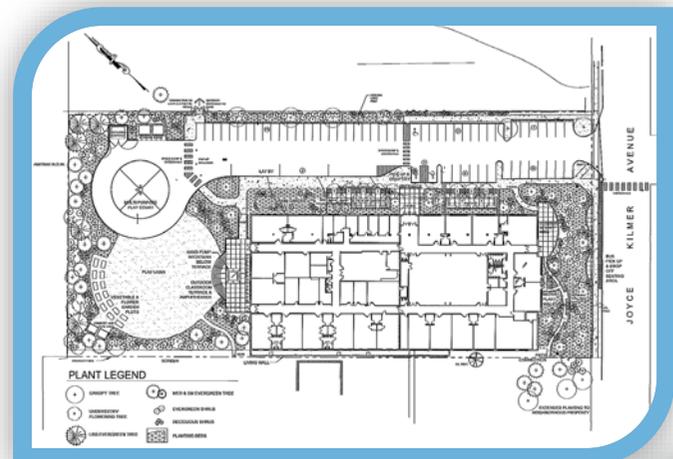
Princeton Charter School *Municipality of Princeton, Mercer County, NJ*

CEC has been working for the Princeton Charter School (PCS) since its inauguration in 1999. As enrollment has increased over the years, we have prepared major site plans for additional classroom space and outdoor needs at different periods. Working with the project architect, we prepared site plans for new classroom buildings, parking lot, bus drop off area, recreational field, paths, and gymnasium. With additional buildings and hardscape, a stormwater management system consisting of underground detention basins, pervious pavement, bio-basin, bio-retention swales, and stabilized turf parking was designed to mitigate the increase in runoff volume. Green infrastructure and low impact development strategies were incorporated where possible to satisfy Princeton requirements. We worked closely with the Delaware and Raritan Canal Commission to achieve compliance with their regulations.



Greater Brunswick Charter School *City of New Brunswick, Middlesex County, NJ*

Carroll Engineering (CEC) prepared site plan drawings for the conversion of an old bowling alley facility into a charter school. Improvements at the site included sidewalks, patio areas, retaining wall, grading, ramps, planting areas, pick up and drop off area, and a play court. CEC performed surveying services to obtain topography and verify storm drainage invert elevations around the school. We worked closely with the architect to develop the site design to be as “green” as practicable. The project included a substantial amount of landscape improvements.



REDEVELOPMENT

The Willows at Burlington Mill *City of Burlington, Burlington County, NJ*

CEC worked with the developer to amend the City's redevelopment plan. Given the proximity to downtown and nearby access to Route 130 and train station, the 2.3-acre site was underutilized for the community being used as a City/DPW recycling yard. The site needed redevelopment which would ultimately benefit the City's residents. After the City's redevelopment plan was amended, CEC worked with the developer to draft an ordinance to close a portion of a street to accommodate the development. CEC then prepared site plans for a proposed 62-unit 100% affordable housing community involving the preservation of an existing three-story brick building. The existing building was in dire need of rehabilitation which could be seen from Route 130. The redevelopment project incorporated current urban planning best practices in order to maximize the livability on the property. In addition to the rehabilitation and preservation of the existing brick building, five (5) new buildings and parking area are proposed while providing ample green spaces. CEC coordinated with local utility departments to address issues with the infrastructure and floodplain challenged site. The site was within the tidal Flood Hazard Area of the Assiscunk Creek and development required NJDEP permits.



Southeastern Development Corporation - PNC Bank *City of Orange Township, Essex County, NJ*

This project involved the site design and permitting necessary to construct a proposed PNC Bank Facility with a drive-thru on Main Street. Three (3) existing properties, including one dilapidated car wash, were consolidated to facilitate the bank. The project was proposed within the City's Main Street Redevelopment Zone where extensive coordination between the client, CEC, and City Officials was necessary, as the project will be an iconic improvement to that section of the City. CEC prepared the Preliminary and Final Site Plan and acquired the required permits to enable the project to commence construction in April, 2020.



RENEWABLE ENERGY

Ben Moreell Solar Farm, Naval Weapons Station Earle *Borough of Tinton Falls, Monmouth County, NJ*

CEC was retained by CS Energy, LLC, a leading integrated energy firm that designs and builds optimized projects in the solar, storage and emerging energy industries, to provide land surveying and civil engineering services for a 28.5 MW ground mounted solar array on approximately 170 acres of underutilized land at Naval Weapons Station Earle in Tinton Falls. While complying with strict military security requirements, surveying services included establishing property lines, locating wetlands flags and existing utility structures, and preparing a boundary and topographic base map for the development plans. With existing conditions and environmental constraints mapped, CEC's civil engineering team began working with CS Energy to lay out the large array to avoid environmentally sensitive areas and impact to existing military operations. Existing patrol roads were utilized where possible to provide maintenance access to the solar array. Drainage crossings at existing patrol roads were improved with conduit outlet protection in coordination with the local soil conservation district. This solar project is the largest in New Jersey to date and is part of the Navy's energy resiliency initiative.



Pemberton CSG 1 Solar Farm *Pemberton Township, Burlington County, NJ*

CEC performed boundary and topographic surveying to establish base mapping for the project. With the base mapping, CEC worked with the solar developer to lay out the solar array within setback requirements. CEC then prepared major site plans and subdivision plan for a 3.15 MW AC ground mounted solar farm to be constructed on agricultural land. The solar array design included drive posts and native vegetation throughout the disturbed areas. The project avoided tree removal and disturbance to environmentally sensitive areas. The main access drive to the solar array required improvements to the County road, which were approved by the Burlington County Engineering Department. Construction is pending BPU approval.



MUNICIPAL/COUNTY

Axe Factory Road *Mansfield Township, Burlington County, NJ*

Axe Factory Road is a 1.5 mile, \$250,000 NJ State Aide road re-surfacing project in Mansfield Township, Burlington County, NJ. This roadway is a heavily travelled corridor and was in great need of pavement repair and re-surfacing. As the Municipal Engineer of Record, the project tasks included the procurement of funding through the State Aide Program, establishment of project limits, project coordination with CEC survey and engineering departments for the development of design plans and specifications. Construction administration and observation services were performed throughout the project construction. Performed the processing of payment requests, change orders and final project closeout through the NJ SAGE system.



Georgetown Community Park *Mansfield Township, Burlington County, NJ*

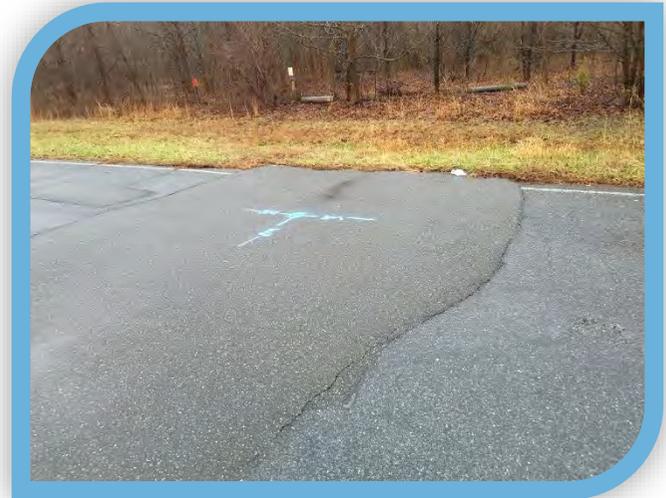
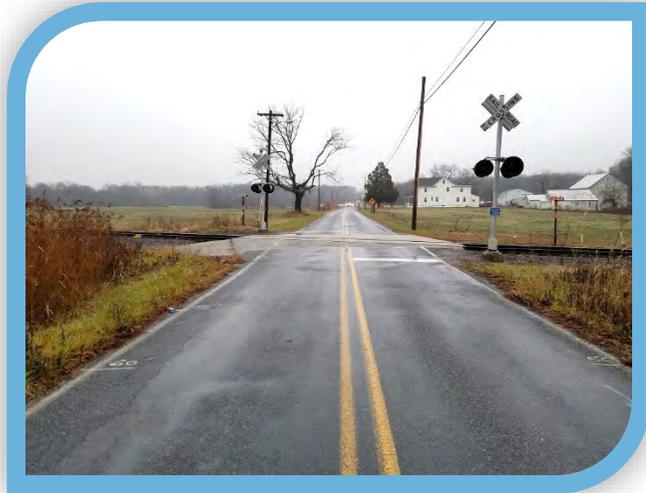
Georgetown Community Park is a two acre playground and physical fitness area project in Mansfield Township, Burlington County, NJ. The previously unused open space on the Township property was developed with a state-of-the-art playground and fitness area including the latest designed playground equipment, fitness equipment, walking health trail and public pavilion with public health and safety as a priority. As the Municipal Engineer of Record, the \$300,000.00 project included extensive project coordination with CEC survey and engineering departments for the development of design plans and specifications. CEC also coordinated with a playground specialist to both procure the necessary funding for the project and secure the equipment. Construction administration and observation services were also performed by CEC throughout the duration of project construction. CEC performed the processing of payment requests, change orders and final project closeout.



UTILITY / AUTHORITY

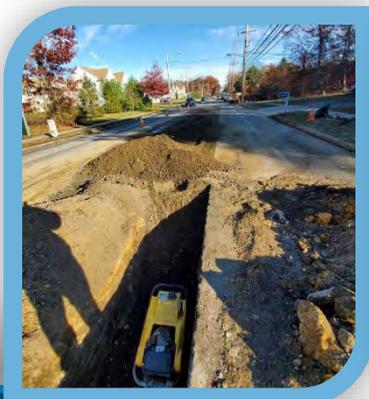
New Jersey American Water – Water Main Extension *Township of Oldmans, Salem County, NJ*

The pipe replacement project is to increase system flow and pressure as well as to replace the existing aged water main creating better resiliency for the system. CEC was responsible for the design and permitting for the project and also assisted in the bidding process. This project involved the replacement of 11,700 LF of 12" diameter water main within Pennsville-Pedricktown Road and Perkintown Road and 1,160 LF of 8" diameter water main in Pennsville-Pedricktown Road from the intersection of Carolina Drive to the intersection of Donna Drive. (75) service connections will be replaced as part of this project in the vicinity of the Carolina Drive development. The project involved permitting from Conrail for a Railroad Crossing, NJDEP for both a stream crossing and a water main replacement permit, the Township of Oldmans for a road opening permit, County of Salem for a road opening permit, and Sunoco Pipeline for a permit to cross (2) underground petroleum pipelines.



New Jersey American Water – Sanitary Sewer Force Main and Pump Station Replacement *Lakewood Township, Ocean County, NJ*

CEC provided construction observation and administration services to NJAW for this project which included the construction of new lift station with wet well, valve vault, fencing, site work, landscaping, electrical, mechanical, SCADA and emergency generator; the demolition of existing onsite structure and the proper compaction/backfilling prior to construction; the construction of new gravity sewer main to the new sanitary lift station and the abandonment/removal of existing gravity main; the construction of approximately 5,000 linear feet of new 10" diameter force main; and, the demolition of the existing lift station and structures. The project duration was approximately 9 months.



RECREATION

The Players Development Academy (PDA) Zarephath Facility *Franklin Township, Somerset County, NJ*

Prior to construction, the property was a mix of farmed fields. In coordination with PDA, CEC designed three (3) full-size grass fields. The fields included sod, irrigation and Musco lighting. Due to the success of the PDA program, the grass fields were in constant use and additional were proposed to alleviate the stress on the grass fields. To keep up with the success of the PDA program, three (3) synthetic turf fields were constructed. CEC performed topographic surveying, field layout, site design, grading, soil erosion and sediment control and drainage of the grass field and two (2) of the synthetic fields. CEC designed a Fieldturf field to replace one of the original grass fields complete with underground detention system. In total, the facility now contains three (3) premier lighted grass soccer fields, two (2) lighted synthetic turf fields, and four (4) grass practice fields. The US Men's National Soccer Team visited the facility and practiced at the facility while in the area for an exhibition match.



Camp Jotoni - The Arc of Somerset County *Warren Township, Somerset County, NJ*

Since 1976, Camp Jotoni has provided a summer camp for children and adults with intellectual and developmental disabilities. The Camp is recognized as a leader in the State of New Jersey due to its ability to serve any and all individuals with disabilities regardless of type, level or complexity of disability. CEC has worked closely with the Arc of Somerset County over the past few years to develop a site plan to meet the current and future needs of the Camp. The site plan calls for the replacement of five (5) existing cabins and with four (4) new cabins that will provide year-round use. Site improvements also include better circulation, defined parking, and stormwater collection and management system. With existing steep slopes on site, accessibility was greatly improved with ramps and ADA compliant walks between structures. Site improvements also include new landscaping, lighting, and utilities. In a future phase, a new two-story lodge is proposed and will be made available to the Camp for programming and serve as a dining hall.



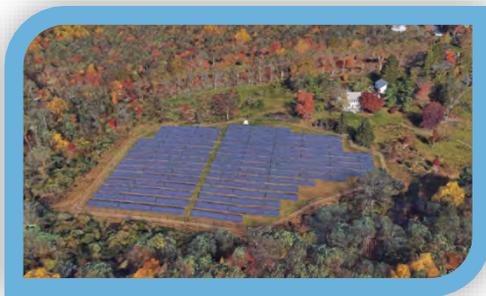
SUSTAINABILITY

Tenacre Foundation *Municipality of Princeton, Mercer County, NJ*

Our work at Tenacre Foundation is a perfect example of our experience in sustainable design. CEC has been providing land surveying and civil engineering services for the organization since 2001. The beautiful properties owned by Tenacre are encumbered by environmentally sensitive areas that come with strict development restrictions. A tributary to the Mountain Brook, a Category One (C-1) classified stream, runs through the main campus which results in a 300-foot riparian zone. In addition, a flood hazard area and wetlands with transition areas encumber the property.

CEC has been working with Tenacre to improve their operations and infrastructure while minimizing environmental impacts. Working closely with Tenacre, the Princeton Engineering Department, Delaware and Raritan Canal Commission, Mercer County Soil Conservation District, and NJDEP, CEC has been successful in obtaining necessary permits and approvals for construction while minimizing impacts to environmentally sensitive areas and preserving natural areas.

Successful projects include major site plans for a building addition, two guest “cottages”, sanitary and water extensions, site access security improvements, circulation and parking improvements, stormwater management facilities, replacement of two (2) existing buildings, and a one (1) acre ground mounted solar array. Tenacre embraces conservation, stewardship and sustainability. Our site designs incorporate green infrastructure strategies and we are committed to providing sustainable and low impact strategies in all of the successful projects.



The Watershed Institute - Stony Brook-Millstone Watershed Association *Hopewell Township, Mercer County, NJ*

CEC prepared major site plans for the LEED Platinum Watershed Center for Environmental Advocacy, Science and Education in Hopewell Township. Civil engineering design services included design of stormwater management facilities, parking and walkways, site lighting, site grading, soil erosion and sediment control, and construction details. The site plans included elements prepared by other professionals in the design team including landscape design and on-site wastewater treatment. Green design elements of the site design include permeable pavers for the parking lots and walks, turf pavers for the fire access, LED site lighting, storage of stormwater runoff for use in a gray water system, native landscaping, bio-retention, and rain gardens in accordance with the NJDEP's Best Management Practices Manual.



MATTHEW M. GARBER, MCSE

Senior Vice President

EDUCATION

Continuing Education Training –1999
Geographic Information Systems
Computer Aided Drafting Training –1989
Lincoln Technical Institute –1987
Middle Bucks Vocational Technical School - 1986

EMPLOYMENT HISTORY:

Carroll Engineering, Hillsborough, New Jersey, Senior Vice President 2018 – Present
Vice President 2005-2010
Computer Operations Manager 1990-2005
CADD Manager 1986-1990

CERTIFICATIONS

Microsoft Certified Systems Engineer (MCSE) 2002
A+ IT Certification 2001

MEMBERSHIPS

National Society of Professional Engineers
Pennsylvania Society of Professional Engineers
Pennsylvania Arc/Info User Group
AutoDesk User Group International
ESRI Business Partner

KEY QUALIFICATIONS:

Mr. Garber has more than 30 years of experience in all computer related aspects of the Civil Engineering and Geographic Information Systems industries. He has extensive management and technical experience in four main areas, Geographic Information Systems, Information Technology, Computer Visualization, and Computer Drafting and Design. He is responsible for the management and quality control for all corporate projects within these areas. As a corporate officer, he is responsible for the overall management of Carroll's Hillsborough, New Jersey office. Mr. Garber makes all decisions regarding operations, contracts, clients, and is responsible for corporate development. He is also responsible for the oversight and quality control of all engineering and surveying related projects, including client relations.

His Geographic Information System (GIS) experience includes full enterprise-wide system design and implementation. He has produced numerous GIS needs analysis and implementation plans for both public and private organizations. Mr. Garber has designed software to assist with the integration of both data and business processes within these entities. His Responsibilities also include the management of the GIS department. He has strong experience with the integration of GIS into an overall Information Technology strategy. As a Microsoft Certified Professional, his Information Technology (IT) experience involves the specification, design, management, and implementation of entire computer infrastructures, including Carroll's wide-area network. Mr. Garber has designed a wide array of systems from a small office environment to command and control centers. He is experienced with all aspects of IT; including, but not limited to: security, networking, document management, wireless, and other communications protocols.

Mr. Garber has designed and initiated the corporate standards for computer visualization. He has produced sophisticated three-dimensional models of civil engineering related sites and structures. He utilizes various visualization software such as: 3d Studio, Adobe Photoshop, Quark Express, Adobe Illustrator, and Corel Draw. Mr. Garber manages the corporate computer-aided drafting and design operations utilizing both AutoCad and Microstation. He sets policies and administers standards for efficiency and quality of all output. In addition, he has extensive experience with civil -

MATTHEW M. GARBER, MCSE *(Cont'd)*

engineering related tools including AutoDesk Civil 3D, Bentley In-Roads, and GeoPack. He is also responsible for the integration of new technologies for the firm's technicians, designers, and engineers.

RELEVANT PROJECTS

Duke Farms Estate, Conventional and GPS Survey, Hillsborough, NJ

Raritan Valley Habitat for Humanity, Major Subdivision for the Disadvantaged, Somerset, NJ

Principal-in-charge of these engineering and surveying projects which included full life cycle implementation from field data collection to final construction.

Delaware River Joint Toll Bridge Commission, New Salt Silo, Hunterdon, NJ

Managed the computer-aided drafting aspects of these projects and designed the strategy for plan production. Responsible for the overall quality control and the coordination of various individuals and departments.

Abington Township, Enterprise-Wide GIS, Montgomery County, PA

American Museum of Natural History, Custom Map Development, New York, NY

Project manager in charge of all aspects of these Geographic Information Systems projects. Produced implementation reports, designed project layout, and coordinated technical staff in the digital map and database conversion and development. Components included GPS data collection, software design, and implementation, including various spatial and tabular data.

Bucks County Water and Sewer Authority, Command Center, Bucks County, PA

New Britain Township, Network Infrastructure, Bucks County, PA

Produced full system design for these network infrastructures. Including wide-area networking using various wired and wireless technologies, server setup, security, and disaster recovery. Components included the synchronization of data between office computers and remote field computers.

EZ Mini Storage, Three-Dimensional Site Model, Pittsburgh, PA

Keystone Mausoleum, Three-Dimensional Building Model, Montgomery County, PA

Created three-dimensional models of each project. Each project was produced in full realism, complete with textures, landscaping, and lighting effects. Used as a tool in the design, construction, and marketing of the facilities.

Dresher Road, Roadway Rehabilitation Project, Horsham, PA

CHRISTOPHER D. BRIGLIA, PE, CME

Senior Project Manager

EDUCATION

Rochester Institute of Technology –1988

B.S. Civil Engineering

Mercer County College –1985

Civil Engineering Technology

EMPLOYMENT HISTORY:

Carroll Engineering, Hillsborough, New Jersey, Senior Project Manager/Municipal Engineer 2018 – Present

Adams, Rehmann & Heggan Associates, Inc., Senior Project Manager/Municipal Engineer 2016 – 2017

Moore Engineering, Senior Project Manager/Municipal Engineer 2014 – 2016

Confidential Consulting Engineers, Owner 2005 – 2014

Finelli Consulting Engineers, Inc., Project Manager/Municipal Engineer 2001 – 2004

Phillipsburg Marble Co., Staff Engineer 1999 – 2001

Thomas L. Yager & Associates, Professional Engineer 1996 – 1999

Schoor DePalma, Inc., Senior Designer 1993 – 1995

Richard H. Schindelar & Associates, Designer 1986 – 1993

CERTIFICATIONS

Professional Engineer – New Jersey - 24GE03886300 / Certified Municipal Engineer-New Jersey-CME 02-03

Pennsylvania - PE045080E / Florida – 50166 / North Dakota- PE-9825

KEY QUALIFICATIONS:

Mr. Briglia has extensive experience in all aspects of civil engineering, including municipal account representation, private and public sector representation, road projects under the NJDOT Local Aid Program, pump station upgrades, large industrial sites, bond recalls, water quality sampling, drought management plans, sanitary and water main improvements and studies, and municipal stormwater management plans. He has experience in design, construction administration, construction permitting, project coordination and billing, and project supervision.

Mr. Briglia has provided expert witness before planning boards, zoning boards, and before the NJ State Superior Court. Mr. Briglia has attended many public hearings and city interviews for capital improvement projects. He has also prepared the Community Development Block Grant application documents and coordinated the development and construction efforts after the grant money was awarded.

He has held various municipal appointments, including:

- Waterford Township, Camden County, NJ
- Franklin Township, Gloucester County, NJ
- Liberty Township, Warren County, NJ
- Mansfield Township, Burlington County, NJ
- Saddle Brook Township Planning Board, Bergen County, NJ
- Saddle Brook Township Zoning Board, Bergen County, NJ
- Englewood Cliffs Borough, Bergen County, NJ
- City of Makoti, Ward County, ND
- City of Benedict, McLean County, ND

CHRISTOPHER D. BRIGLIA, PE, CME *(Cont'd)*

He has directly assisted the Municipal Engineer of record in various municipal appointments, including:

- Lopatcong Township, Warren County, NJ
- Town of Phillipsburg, Warren County, NJ
- Independence Township, Warren County, NJ
- Oxford Township, Warren County, NJ
- Greenwich Township, Warren County, NJ
- Readington Township, Hunterdon County, NJ

RELEVANT PROJECTS

Township of Mansfield, Municipal Engineer Appointment

- **Axe Factory Road:**

A 1.5-mile NJ State Aide road re-surfacing project in Mansfield Township, Burlington County, NJ. As the Municipal Engineer of Record, the project tasks included the procurement of funding through the State Aide Program, establishment of project limits, project coordination with CEC survey and engineering departments for the development of design plans and specifications. Construction administration and observation services were performed throughout the project construction. Performed the processing of payment requests, change orders and final project closeout through the NJ SAGE system.

- **Mansfield Road East:**

A 1.5-mile NJ State Aide road re-surfacing project in Mansfield Township, Burlington County, NJ. As the Municipal Engineer of Record, the project tasks included the procurement of funding through the State Aide Program, establishment of project limits, project coordination with CEC survey and engineering departments for the development of design plans and specifications. Construction administration and observation services were performed throughout the project construction. Performed the processing of payment requests, change orders and final project closeout through the NJ SAGE system.

- Chesterfield-Georgetown Road
- Mount Pleasant Road
- Georgetown Community Park
- Minor Subdivision of 24548 E. Main St. – Former Township Municipal Building
- Construction Inspection Services for Manheim Auto Auction
- Construction Inspection Services for Country Walk Subdivision
- Municipal Building Fire Protection System Upgrades

Borough of Englewood Cliffs, Municipal Conflict Engineer Appointment

- LG Electronics – Construction Observation and Administration
- Unilever – Construction Observation and Administration

Private Sector Projects 1-9-18 to Present

- Southridge Hills Section 2C – Major Residential Site Plan: South Brunswick Township, Middlesex County, NJ
- Rutgers University – Newark Campus Parking Lot Improvements: City of Newark, Essex County, NJ
- New Jersey American Water – Water Main Extension and Stream Crossing: Borough of Bound Brook, Somerset County, NJ
- New Jersey American Water – Water Main Extension: Township of Piscataway, Middlesex County, NJ
- New Jersey American Water – Water Main Extension: Borough of Jamesburg, Middlesex County, NJ
- New Jersey American Water – Fine Screen Installations at Various Wastewater Treatment Plants: Warren, Morris, and Somerset Counties, NJ
- New Jersey American Water – Sanitary Lift Station and Force Main Installation: Township of Lakewood, Ocean County, NJ
- Dunbar Homes, LLC – Hempstead Gardens Major Site Plan: South Brunswick Township, Middlesex County, NJ
- Southeastern Development Corp. – PNC Bank Major Site Plan: City of Orange Township, Essex County, NJ

THOMAS J. FIK, PE, CME, LEED AP
Senior Project Manager

EDUCATION

The University of Rhode Island – 1995

B.S. Civil Engineering
B.A. German

WORK EXPERIENCE

Carroll Engineering (CEC), Hillsborough, New Jersey, Professional Engineer 2005 – Present
B2A/SURVSAT, B2A Consultants, Hillsborough, New Jersey, Design Engineer (acquired by CEC) 1995 – 2005
Associated Consultants, Chester, New Jersey, Survey Crew 1993 – 1995

CERTIFICATIONS

Professional Engineer: New Jersey – 24GE04591700
Professional Engineer: Pennsylvania – PE075612
Certified Municipal Engineer (CME)
LEED Professional Accreditation
NJDEP Flood Hazard Control Act Rules Certification

SKILLS

Stormwater Management
Low Impact Development (LID)
AutoCAD 2019 Civil 3D
HydroCAD
MicroStation
HEC-RAS

MEMBERSHIPS

American Society of Civil Engineers
National Society of Professional Engineers
New Jersey Society of Municipal Engineers
Sports Field Managers Association
Raritan Valley Habitat for Humanity Board of Directors

KEY QUALIFICATIONS

Mr. Fik's experience covers all aspects of land development including stormwater management, zoning and site analysis, due diligence, soil erosion and sediment control, conceptual planning, and permitting. Site design experience includes minor and major site plans, subdivisions, storm sewers, sanitary sewers, grading, lighting, roads, parking lots, athletic fields, and stormwater management facilities. He has a strong background in green design and sustainable strategies. He is proficient in surveying and engineering software and is able to produce topographic maps and site layouts.

RELEVANT PROJECTS

The Willows at Flemington Junctions, Ingerman Development Group LLC, Raritan Township, Hunterdon County, NJ

Prepared preliminary and final site plans for 84-unit 100% affordable housing community with divided access drive, parking areas, stormwater management system (2 detention basins), landscaping, lighting, public water and sewer extensions, and various permits from NJDEP, Hunterdon County Soil Conservation District, MUA, and Hunterdon County Planning Board.

THOMAS J. FIK, PE, CME, LEED AP *(Cont'd)*

The Willows at Burlington Mill, Ingerman Development Group LLC, City of Burlington, Burlington County, NJ

Prepared preliminary and final site plans for 62-unit 100% affordable housing community involving the rehabilitation of an existing three-story brick building, five (5) new buildings, parking areas, stormwater management collection system, minor subdivision, landscaping, lighting, and closing a portion of a street and coordination with local officials to accommodate current utility operations. Various permits obtained from NJDEP, Burlington County Soil Conservation District, MUA, and Burlington County Planning Board.

Tenacre Foundation, Princeton, Mercer County, NJ

Prepared site plans for various projects, including 2-acre solar panel array in an agricultural field, major site plans for a building addition and two guest residential cottages, access management site plans, permeable paver parking area, replacement of existing buildings in environmentally sensitive areas, site lighting improvements, sanitary sewer and water main extensions, and campus power upgrades. Projects required significant coordination with Princeton, NJDEP and DRCC.

Ben Moreell Solar Farm, Tinton Falls, Monmouth County, NJ

Prepared site plans for the 130-acre 28.5MW ground mount solar farm on the NWS Earle base in Tinton Falls. Worked closely with the client and Navy to avoid environmentally sensitive areas and ensure project meets the Navy's energy renewable energy plan. Project required coordination and certification from the Freehold Soil Conservation District.

Camp Jotoni, The Arc of Somerset County, Warren Township, Somerset County NJ

Prepared site plans for the proposed site improvements at the Arc's summer recreational facility that provides summer programs and respite weekends for children and adults with intellectual and developmental disabilities. Proposed site improvements include new cabins, a "Lodge", new pool, accessible walkways, and driveway and parking enhancements. Utility upgrades will support the new buildings and an underground detention system will mitigate surface runoff.

Cornerstone Professional Center, Hillsborough Township, Somerset County, NJ

Prepared major site plans for a multi-story office building on State Highway Route 206. Design work included access drive, parking lot, grading, sanitary sewer extension, lighting, soil erosion control, and underground detention basins. Permits included NJDEP wetlands and FHA disturbance, NJDEP TWA, NJDOT Major Access, and soil erosion and sediment control.

Sentinel Data Center, Somerset, Somerset County, NJ

Prepared major site plans for the conversion of a 200,000± SF warehouse building into a data storage center. The site development associated with the conversion included realignment of existing drives, minor building expansion, sidewalks, service yard, loading dock, and modifications to the existing detention basin to meet all local and state runoff quantity and water quality requirements. LEED Gold certification is pending.

Princeton Charter School, Princeton, Mercer County, NJ

Prepared major site plans for an addition and new buildings on campus. Site improvements included new walkways, play areas, utilities, and underground stormwater management system. Green infrastructure, such as bio-swales and bio-basins, were incorporated into the site design.

Stony-Brook Millstone Watershed Association, Hopewell Township, Mercer County, NJ

Prepared site plans for the LEED Platinum Watershed Center for Environmental Advocacy, Science and Education. Site improvements included rain gardens, parking, walkways, LED site lighting, permeable pavers, storage of stormwater runoff for use in a gray water system, and natural stormwater runoff conveyance.

Players Development Academy (PDA) Soccer Facility, Zarephath, Somerset County, NJ

Designed multi-field soccer facility that includes lighted synthetic turf soccer fields, lighted natural grass fields, natural grass practice fields, snack/equipment shed and parking area.

HOWARD C. LOPSHIRE, PLS, PP
Survey Project Manager

EDUCATION

University of Colorado
Rutgers University

EMPLOYMENT HISTORY:

Carroll Engineering, Project Manager/Land Surveyor 2011-Present
PSEG Services, Project Manager/Land Surveyor 2010-2011
Control Point Associates, Project Manager/Land Surveyor 2006-2011
Newton Land-Surveyor, Land Surveyor 2005-2006
Maser Consulting, Project Manager/Land Surveyor 2004-2005
Robert C. Bogart & Associates, Project Manager/Land Surveyor 2000-2004
Heritage Consulting Engineers, Project Manager/Land Surveyor 1991-2000
Bohren & Bohren Engineering Associates, Project Manager/Land Surveyor 1970-1991

CERTIFICATIONS

NJ Land Survey #24GS02680300
NJ Professional Planner #33LI00241400
NJ Certified Wetlands Delineator

KEY QUALIFICATIONS:

Mr. Lopshire has extensive experience with the preparation and review of project proposals, managing and coordinating aspects of required large scale fast track project goals with various consultants along with supervision and organization of employees, attending project meetings, and weekly project status reports. In addition, he oversees quality control, final proofing along with extensive detail checking of all phases of survey project submittals, final deliverables, ALTA/ACSM title review, boundary and right-of-way analysis, standard preparation of metes and bounds descriptions. Mr. Lopshire is also responsible for Digital Terrain Modeling, construction stakeout, preparation of Substation Control Plans, As-Built Surveys, Lot Consolidation Plans, Stream Encroachment Surveys, Stream Cross Sectional Surveys Plan & Profile, & Aerial Control.

RELEVANT PROJECTS

Public Service Electric and Gas Company (PSEG Services Corporation)

Currently providing surveying services in all capacities all over the State of New Jersey.

The Ridge at Back Brook Golf Course

Site plan preparation and calculations, grading plans, existing topographic features, proposed clearing areas, stream encroachment areas, compliance of site design to local zoning ordinances and requirements, grading and drainage design, course layout and area calculations for fairway, ponds, tee and green locations, bunker areas, clubhouse site and parking lot layout, steep slope areas, landscape plantings, driving range, miniature golf course layout and design, batting cages, and lighting areas.

United States Department of Agriculture (USDA)-Natural Resource Conservation Source (NRCS)

Preparation of Wetlands Reserve Easement & Floodplain Conservation Easement Surveys.

Duke Farms, Hillsborough, NJ

Recent Land Title Preservation & Conservation Survey (2,000 Acres±).

HOWARD C. LOPSHIRE, PLS, PP *(Cont'd)*

American Water

Providing surveying services for numerous facilities.

New Jersey Transit

Providing surveying services for numerous facilities.

Habitat for Humanity

Recent surveying services for various charitable residential projects

Princeton Charter School

Currently providing surveying services

GREG MATTEO
Survey Project Manager

EDUCATION

Salisbury State University
B.S. Elementary Education

EMPLOYMENT HISTORY:

Carroll Engineering Corporation, Survey Technician and CADD Operator 2014 - Present
Malick & Scherer, PC Survey Technician, 2011-2014
Control Point Associates, Survey Technician, Instrument Operator, and CADD Operator 2006 - 2011
Stewart Surveying and Engineering, Surveyor/CAD Operator 2005 - 2006

CERTIFICATIONS

NSPS Certified Survey Technician – Level I
Safety Training for New Jersey Transit
Safety Training for New Jersey Turnpike Authority
Substation Awareness Training for PSEG

KEY QUALIFICATIONS:

Mr. Matteo is responsible for preparing Boundary and Topographic Surveys, ALTA/ACSM Land Title Surveys, boundary calculations, interior surveys, line and curve tables, route, and transformation of points to various coordinate systems. In addition, he is also well versed in topographic map preparation, creating surfaces/DTMs, calculating and editing contour datum, creating, and analyzing profiles and cross sections for finished grade, drainage design and road improvements. Mr. Matteo is proficient in AutoCAD, up to and including version 2019 Civil3D and Bentley MicroStation V8 & V8i.

RELEVANT PROJECTS

Public Service Electric and Gas (PSE&G)

Currently providing surveying services in all capacities all over the State of New Jersey. Prepare topographic surveys, route surveys, DPCC plans, substation as-builts, and stakeout services.

United States Department of Agriculture (USDA)

Preparation of a WRP Easement Surveys on an as-needed basis in accordance with minimum standard detail requirements as set forth in Land Survey Specifications Natural Resource Conservation Service (NRCS) Easement Programs guidelines

Mid-Atlantic Naval Facilities Engineering Command/Naval Weapons Station Earle

Re-establish, monument, create and record a Boundary Survey of Naval Weapons Station Earle and some of its supporting properties. The goal of this project is to provide a final product which will be boundary surveys of the sites to establish the accurate legal boundaries per the recorded legal descriptions, identify, locate and map all physical improvements, easements and encumbrances within ten feet (10') of the perimeter boundaries, identify and compute acreage for each site and record the document with the County of Monmouth. The property line surveys will also depict any encroachments which affect the perimeter.

JUSTIN P. JURKOWSKI
Survey Coordinator

EDUCATION

New Jersey Institute of Technology - 2014

Raritan Valley Community College - 2011

Monmouth University – 2006

WORK EXPERIENCE

Carroll Engineering, Hillsborough, NJ, Survey Project Manager 2019 – Present

Control Point Associates, Inc., Warren, NJ, Senior Survey Technician/CAD Operator/Crew Chief/Instrument Operator 2007-2019

CERTIFICATIONS

N.I.C.E.T. Level 2 Certified

KEY QUALIFICATIONS

Mr. Jurkowski has extensive experience in all facets of Land Surveying including:

- The Scheduling of field crews and office staff, marketing, administration, personnel management, billing, and preparation of proposals.
- Coordinated with other discipline heads, professional engineers, planners, landscape architects and environmental specialists.
- Coordinated with clients including attorneys, developers, title companies, contractors, construction managers, site supervisors, municipal, county and state government officials.
- Managed and coordinated a vast array of projects from start to finish. This includes meeting with the client, planning the project, setting up and scheduling field crews, coordinating and supervising survey and CAD technicians, analyzing the survey data, reviewing, and certifying the final product.
- Experienced in boundary resolution, research, and analysis.
- Professional surveying services for large- and small-scale commercial, residential, and public sector projects with an emphasis on AL TA/ACSM Land Title Surveys for the development and conveyance of commercial properties; boundary and title surveys for the transfer of property; topographic surveys for land planning and engineering design; subdivision maps; as-built surveys; right-of-way surveys, highway, rail, subway and bridge improvement projects, wetland delineation surveys and construction layout surveying.

RELEVANT PROJECTS / CLIENTS

The Highline, New York, NY

Provided conventional and geospatial services in the field and geotechnical services in the office to help construct an elevated park on old railway.

Bradley Hill Corporate Center, West Nyack, New York

150-acre project consisting of 22 individual ALTA Surveys to be completed 3 weeks after the completion of field work.

River Terminal Development, Kearny, New Jersey

Provided layout, as built and other miscellaneous services. Only person permitted to work on project in office.

Premier Development

Currently providing surveying services for several residential projects.