PWGC
Strategic Environmental Engineering Solutions

Paul W. Grosser, PhD, PE, President

PROFESSIONAL EXPERIENCE
PWGC: 23 years
Prior: 14 years

EDUCATION

- PhD, Civil Engineering, Polytechnic Institute of New York University, NY
- ME & BE, Civil Engineering, Stevens Institute of Technology, NJ
- Professional Service Firm Leadership in Finance for Small Business - Harvard Business School
- Diplomate, Academy of Environmental Engineers

CERTIFICATIONS

- Licensed Professional Engineer, NY, NJ, MD, IN, NC, NH, MA, FL, WA
- NJDEP-Certified UST Closure, Testing, Investigation
- Certified Groundwater Professional (CGWP)

HONORS & AWARDS

- NYSSPE - Engineer of the Year Award - 2010
- NYSSPE - Suffolk Chapter Engineer of the Year Award - 2009
- ACEC NY - Engineer of the Year Award - 2006
- ACEC NY - New Principal of the Year - 1988
- Engineers Joint Committee, LI - Achievement Award - 2001
- Long Island Water Conference – Golden Faucet Award

AFFILIATION

- DEC Water Resources Management Advisory Committee
- American Council of Engineering Companies (ACEC) - Executive Committee Member 2010-2012
- National Society of Professional Engineers
- Fellow American Society of Civil Engineers
- Long Island Water Conference
- American Geophysical Union
- Life Member American Water Works Association
- National Water Well Association
- Riverhead Foundation for Marine Research & Preservation - Board Member
- Stevens Institute of Technology - Alumni Environmental Committee
- Water Environment Association

PROFILE

Dr. Paul W. Grosser is a recognized authority in the fields of civil, environmental, and geological engineering with an extensive knowledge and valuable expertise from over 35 years in the industry. He is responsible for the firm's business and technical operations and has served as principal on far more than a thousand projects since he founded PWGC in 1990. Under Dr. Grosser's guidance and drawing from his expertise, PWGC has established a strong, solid reputation for providing quality environmental consulting and engineering services to private, municipal, and federal clients. His realistic solutions for engineering challenges in the public and private sector, provide clients with customized solutions for environmental challenges. His geographical area of expertise is the NY Region, particularly the 5 New York boroughs and Long Island.

Paul is an active member in many national and regionally-based professional societies and has been a major presence in the regional engineering community for more than 30 years. An advocate for best practices in civil engineering, Dr. Grosser is an avid supporter of value engineering and environmentally- oriented business concepts (i.e. Smart Growth, Brownfields). His financial and intellectual contributions play a vital role in local outreach programs, elevating environmentally-sound management practices into one of Long Island's top priorities. In his role as public speaker, he promotes issues such as the importance of information exchange and multi-level collaboration between professionals business and the community. Most recently D

AREAS OF EXPERTISE & EXPERIENCE

Water Resource Management

Ross School, East Hampton, NY

Campus Master Plan -EIS, Draft EIS, Geothermal Well Design & Construction Management - PWGC prepared a comprehensive project plan, design, and start-up strategy in collaboration with other team consultants, regulatory agencies, utility companies, and regional planners. Dr. Grosser managed all water resource issues of the site's development and the integration of an ecologically engineered sewage treatment to minimize potential of impacts on nearby environment from the present and anticipated campus population's water use/re-use. He identified overall impacts on the Town of East Hampton (cultural, socio-economic & quality of life) for the DEIS, led research, analysis, and planning pertaining to water supply, wastewater, irrigation/drainage, turf & integrated pest Management (IPM), and consulted the client on geologic/hydrogeologic aspects, and hazardous materials storage, handling & disposal. In addition, he documented findings and evaluation of various sewage treatments methods that met the client's environmental objectives. As part of the EIS, he researched alternatives to minimize potential impacts on the South Fork groundwater quality, reviewed and oversaw the preparation of designs for to the installation of several geothermal wells and construction of playing fields and recreational facilities.

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Department of Public Works, Nassau County, NY

Master Water Supply Plan - Dr. Grosser was responsible for writing the Nassau County Master Water Supply Plan that included an evaluation of the permissive sustained yield of the aquifers utilizing the USGS three-dimensional groundwater model of L.I. Identified areas of groundwater contamination and performed trend analysis of water quality data for majority of the wells. The study investigated various water supply alternatives available to Nassau County to meet its needs.

Benjamin/Beechwood Developers, Far Rockaway, NY

Arverne Urban Renewal Area (URA) Stormwater Management - PWGC advised the client that a detailed analysis of the impacts on the basin was necessary because the URA drains into the Barbadoes Basin. The initial analysis presented in the DEIS only compared average runoff quantities and nitrogen loadings, without considering tidal flushing from Jamaica Bay and the impact of storm events. PWGC addressed these two issues and investigated additional remedial measures. Dr. Grosser oversaw the submittal of the DEIS to the appropriate NYC authorities for review, including the Department of Housing Preservation and Development (NYCHPD). After PWGC had addressed HPD's and other relevant parties' comments and updated the DEIS accordingly, the DEIS was approved as the Final EIS.

Water Authority of Great Neck North (WAGNN), NY

Subsurface Investigation, WAGNN Well Fields/Impact Investigation of Proposed Great Neck North Wells – Dr. Grosser served as consultant to evaluate the affect on surrounding wells, provided expert testimony and prepared an aquifer management plan to identify the most effective way to manage the groundwater resources of the service area. These resources were threatened by saltwater intrusion and the management plant alleviated this threat.

Sebonack Neck Holdings, LLP

Environmental Impact Statement – Under subcontract to GPI, Dr. Grosser prepared the groundwater and surface water resources sections for the project's EIS. The project consists of an 18-hole golf course, clubhouse, dormitory, cottages and associated structures. A critical issue was the potential nitrogen impacts on Cold Spring pond and Peconic Bay. Dr. Grosser's analysis included the modeling of nitrogen from onsite sewage disposal and fertilization at the course. PWGC also performed the design for water supply infrastructure, including water mains and back-flow prevention devices.

Town of Southampton, Suffolk County, NY

Critical Wildlands & Groundwater Protection Study

In collaboration with AKRF, Inc, Dr. Grosser designed and conducted a case study to institute a land use plan for a largely undeveloped area on the South Fork of Long Island. To evaluate the impact of mounting development pressure on local ground water quality, he used the BURB's model; to depict the relation between housing density and ground water quality. His findings showed that for low-density housing (greater than 5 acre/unit) fertilizer use and amount of cleared area were critical in controlling nitrogen concentrations in groundwater. To allow development with the nitrogen loading constraints, Dr. Grosser recommended to up-zone and restrict clearings and turf.

U.S. Army Corps of Engineers, NY

Brooklyn/Queens Aquifer Study – Managed project to evaluate the potential use of aquifers located beneath Brooklyn and Queens for water supply to the City of New York. His recommendations included recharging the aquifers during periods of excess reservoir water and using them for supply during drought periods.

Harbor Links Golf Course Town of North Hempstead, NY

Golf Course Irrigation System – Under a subcontract to GPI, Dr. Grosser evaluated alternatives for the supply of irrigation water to the Harbor Links Golf Course. The three alternatives were (1) use of water from an existing pump and treat system at the adjacent landfill, (2) use of stormwater, on site supply wells, (3) use of ponds as a source of groundwater and public water supply. Dr. Grosser recommended that the primary source of water be from the landfill pump and treat system after treatment to near drinking water standards and discharge to a detention pond.

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NYC Department of Parks and Recreation, NY

Small Capacity Irrigation Wells Design, Staten Island, Manhattan, Bronx – Dr. Grosser served as the principal in charge of this project to develop small capacity irrigation wells in selected locations within three boroughs. These included over burden wells in Staten Island and southern Manhattan and bedrock wells in Manhattan and the Bronx.

Engineering Report, Groundwater Supply for NYC Parks, Pools, and Golf Courses - Dr. Grosser was the project manager for investigating the feasibility of groundwater use to supply various parks facilities throughout New York City during drought periods. His study identified potential well yields in various locations and provided water quality forecasts.

Water Conservation Project Golf Course Reconstruction, Bronx, Staten Island, Brooklyn, and Queens, NY – Worked closely with the NYC PDR and contractors on the new lake designs, which included contours, elevations, inlet and filter well details. He provided consulting and engineering services for the new well installations, such as well design preparation and specifications, wetlands issues, existing well tests, and pond modifications for 12 golf courses in the 4 boroughs.

Groundwater Feasibility Study (FS) & Engineering Designs for NYC Parks, Pools, and Golf Courses – Dr. Grosser completed a FS on utilizing groundwater of NY City pools and golf courses to reduce their dependency on public water. Next, he conferred with local park administrators and Conservancy staff members to determine project requirements and constraints as follows: All installations were required to be (1) underground and out of sight, (2) operate with minimal maintenance, and (3) meet the highest aesthetic standards. Based on the FS results and client's objective, Dr. Grosser prepared the designs for irrigation wells and relating structures, mechanical, electrical, and piping systems for Central Park (Conservatory Gardens, Strawberry Fields, and tennis court areas), Prospect Park, Van Cortland Park, Flushing Meadows Park, Silver Lake Park, and Clove Lake Park.

IBM, Sands Point, NY

Water Supply Investigation & Project Management - Prepared an independent analysis of how up zoning the property using data on water use of nearby golf courses and clusters of dense single-family dwellings. Highlights on the project included an analysis of (1) groundwater quality and quantity impacts, and (2) an engineering and hydrogeologic report to support a well permit application. He also managed community relations for IBM, and raised public awareness of the project at hand.

Nassau County Planning Dept., Long Island, NY

Redevelopment Study - Project principal for the two-fold planning project to study current water supply availability and wastewater, evaluate different development scenarios and resulting environmental impacts from the proposed redevelopment at the Northrop Grumman site in Bethpage, NY.

Groundwater Remediation

Brookhaven National Laboratory, Upton, NY

Engineering & Environmental Services - Dr. Grosser works closely with PWGC hydrogeologist and engineering teams to conduct groundwater/soil investigations, remedial actions and the preparation of engineering designs and specifications. He has been providing services to BNL for over 20 years.

Minmilt Realty, Farmingdale, NY

Remedial Investigation/Feasibility Study (RI/FS) – Dr. Grosser served as principal-in-charge for an RI/FS to determine the source and extent of soil and groundwater contamination beneath the site. Dr. Grosser reviewed the final design of a pump and treat system installed as an interim remedial measure - the system is operating successfully to date. In addition, Dr. Grosser supervised an extensive fate and transport evaluation for Minmilt, to attest that an off-site investigation was not necessary.

Dutchess Terminal, Poughkeepsie, NY

Hydrogeologic Investigation & Remediation Strategy Analysis – In order to determine the sources of contamination and assess the effectiveness of a groundwater remediation system, he conducted an investigation to identify the spilled product from five different bulk-oil storage companies. Throughout the petroleum spill investigation, Dr. Grosser served as liaison to

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NYSDEC. Based on the findings of his investigation, NYSDEC identified potential responsible parties and obtained cost recovery.

North Sea Landfill, Town of Southampton, NY

Assessment Study – As principal in-charge, he supervised data research and evaluation of the generation, collection and removal of leachate at the landfill. Currently, he guides the PWGC Project Manager in evaluating data obtained from gas monitoring wells to determine possible areas of concern.

Storm Water Management

Tanger Factory Outlet Center, Riverhead, NY

Project Management – Served as project manager for the challenging two-phase site development plan of the center, which was located in an environmentally sensitive area.

Water Supply & Treatment

Riverhead Water District Expansion (RWD), Riverhead, NY

Master Plan Design – Dr. Grosser designed the master plan to increase RWD's service area and connect a number of existing suppliers along Sound Avenue to Wildwood State Park and Wading River. RWD followed his strategy and implemented his designs for the construction of storage facilities and wells. He directed the design process and oversaw the installation of wells, storage facilities, and water main installation. Consequently, local residents gain access to safe drinking water (until then, drinking water was only available from private wells or poorly maintained supplies of public water, which has been heavily impacted by the agricultural chemicals.

Brentwood Water District, Town of Islip, NY

Water Supply Design – As principal-in-charge for developing a cost-effective design to prevent contamination in 2 Brentwood water supply wells. To mitigate the contamination investigation's findings, which revealed a potential for volatile organic compounds (VOC) and nitrate contamination, he designed and implemented an air stripper that includes a 2,600 gpm air-stripping tower and 100,000 gallon clear well.

Hampton Bays Water District, Town of Southampton, NY

Master Water Plan – Principal-in-charge for Hampton Bays Water District study to modernize the agency's water distribution system. His contributions to the Master Water Plan were advisory and included existing water supply wells, storage facilities and water distribution system, and analysis of needs in respect to projected water demands and initiation of Hampton Bays Water District towards a comprehensive Geographic Information System.

Colonial Springs Golf Course, Farmingdale, NY

Designs, Soil Condition Evaluation for Golf Course Plan – Based on Dr. Grosser's design for and evaluation of the 225-acre project, PWGC selected and installed a liner for a 12.5-acre lake, prepared details for foundations and floor slabs for housing structures, and electrical and mechanical designs of the irrigation pump station.

Wastewater Treatment

Village of Sag Harbor, NY

Municipal Sewage Treatment Plant Engineer of Record – Dr. Grosser acts as the Village Engineer directing engineering for the Village's municipal sewage treatment plant, a sequential batch reactor (SBR) with a peak design flow of 250,000 gpd). He coordinates on-call technical support to plant operators in troubleshooting operational and process problems, plant effluent data reviews, flow and effluent quality conditions analyses, also reviewed application for expansion of the sewer district and design services on as needed basis. In addition, he is responsible for site plan reviews for development in the Village and design of Village improvement projects.

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Montauk Yacht Club - Montauk, NY

Sewage Treatment Plant & Site Planning – Dr. Grosser oversaw the Natural Resources Special Permit (NRSP) application, required by the Town of East Hampton, as well as the drawings to comply with conditions of the site; mainly its close proximity to a wetlands area, poor soil conditions, and high groundwater table. He oversaw the drawings, construction plans and site designs for a Sewage Treatment Plant (Sequenced Batch Reactor technology for secondary treatment and nitrogen removal) and a water-supply system compliant with the Suffolk County Department of Health Services (SCDHS) and the Water Authority (SCWA) regulations. The system features RPZs, water meters, water mains, service connections, valves, hydrants, and related water services.

Former Southampton College, Southampton, NY

Sewage Treatment Alternatives Evaluation – Dr. Grosser directed the preparation of an engineering report for Southampton College, now known as Stony Brook University's Southampton Campus, to evaluate various sewage treatment alternatives capable to meet the demands of the existing campus and a possible expansion. Knowing the campus' area of location intimately, he led the research of ecologically engineered sewage treatment systems (i.e., Living Machines®, Solar Aquatics®, and Ocean Arks®) to determine their suitability. He coordinated with the Suffolk County Department of Health Services regarding acceptance and computed estimated sanitary flow numbers based on County sanitary code requirements. Dr. Grosser worked with PWGC Senior Engineers to design the conceptual layout of sewage treatment locations and associated sewage collection systems and to develop and cost out various viable alternatives. In addition, he provided expert recommendations that were included in the report.

Vulnerability Analysis

North Shore LIJ Health Systems, Various Hospitals, NY

Vulnerability Analysis – Dr. Grosser worked on a dedicated team to develop a vulnerability analysis for the Staten Island University Hospitals to determine the areas of the Hospitals which may be vulnerable during a natural hazard event (such as a hurricane or flood).

Risk Assessment

Clarkstown Landfill, Clarkstown, NY

Ecological Risk Evaluation - Dr. Grosser conducted a detailed quantitative ecological risk assessment to determine risk associated with environmental exposure to landfill stressors. An analytical model was employed to convert contaminant concentrations to exposure does of three representative species of animals. The species were selected to represent different wetland and upland ecological communities present at the site. Ecological hazard indices were calculated to evaluate risks and impacts.

Minmilt Realty, Farmingdale, NY

Superfund Risk Assessment – Dr. Grosser served as principal-in-charge for an RI/FS to determine the source and extent of soil and groundwater contamination beneath the site. Dr. Grosser supervised an extensive fate and transport evaluation for Minmilt to satisfy Superfund exposure assessment requirements. Hazard identification, exposure assessment, toxicity assessment, and risk characterization were performed to generate a preliminary risk assessment report. In addition, Dr. Grosser reviewed the final design of a pump and treat system installed as an interim remedial measure - the system is operating successfully to date.

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Expert Witness Testimony & Depositions

- Deepdale Golf Course vs. Village of North Hills
- Village of Sag Harbor, NY - KeySpan Manufactured Gas Site
- Land Air Water Environmental Services, Inc, Riverhead Supreme Court, NY -Well Drilling Techniques, Soil Conditions, Dewater Excavation Ability
- Mill Neck; Nassau County Supreme Court, NY - Property Flooding from Inadequate Drainage Channel Maintenance
- Village of Bayville, NY – Compliance Issues with a Village-Operated Well
- Town of Huntington, NY - NYSDEC Hearings on the Town Landfills' Leachate, Fate & Transport
- Duchess Docks, Poughkeepsie, NY - Petroleum Spills Cost Recovery
- Attorney General, NYSDEC -Appropriateness of Remedial Techniques & Design at Gasoline Spill from Gas Station, Ridge, NY
- 100 Oser Avenue, Hauppauge, NY – Groundwater Contamination Evaluation

Previous Experience

Suffolk County Department of Health Services

Assistant Public Health Engineer – Dr. Grosser developed computer programs to optimize recording and analysis of water quality data, trends, plotting and to perform multiple regression analyses. **Achievements**: Staff engineer on the Nassau-Suffolk 208 Study where he managed project review, virus studies, groundwater modeling and, in particular, trace organic research. To date, Long Island's engineers still use the study to evaluate water resources.

H2M Group

Vice President, Hydrogeology/Water Supply Division; Director of Water Resources/Hydrogeology; Project Manager/Engineer –Dr. Grosser prepared water resources planning reports for a number of Long Island towns and water districts to identify potential areas of groundwater development as well as sources of contamination of water supply wells designed/developed plans and specifications for water supply, and treatment facilities including wells, pump stations, elevated/ground storage tanks, auxiliary engines, wells and pumps. He investigated available water supply alternatives to meet Nassau County needs. Advised on technical challenges, and was in charge of quality control for business as well as environmental engineering processes Initiated marketing, client and project care programs to enhance H2M's Client Relationship Management. **Outstanding project** – He worked on the planning and development of the Nassau County Water Supply Plan for Nassau County Department of Public Works. In doing so, he evaluated the permissive sustained yield of the aquifers utilizing the USGS three-dimensional groundwater model of Long Island, which enabled the identification of groundwater contamination and analysis of water quality trends for regional wells

Publications & Presentations

Land Use Planning for Groundwater Protection (Case study, Land Use Plan Establishment for largely undeveloped area on the South Fork, Long Island, Southampton, NY, Presentation (co-author Robert White, VP, AKRF) NY Water Environment Assoc., 06/04)
Relationship between Land Use Planning & Groundwater Quality (Presentation, LIAG Meeting, Lake Grove, NY, 10/01)
Regulation of Storage Tanks in NY (NY Environmental Law and Management Update 2000, ABS Group Inc, Melville, NY, 10/01)
Water Pollution Control in NY (NY Environmental Law and Management Update 2000, ABS Group Inc., Melville, NY, 10/00)
Water Treatment Methods to Meet New Volatile Organic Water Quality Standards (NY & New England AWWA, MA Spring 89)
Use of Granular Activated Carbon Filters for the Removal of Pesticides from Ground Water (Presentation, 3rd Groundwater Technology Meeting 09/87, Published: Pollution, Risk Assessment & Remediation in Groundwater Systems (ed Khanbilvardi/Fillos))

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Determination of Groundwater Sampling Frequencies through Bayesian Decision Theory Civil Engineering Systems, Vol. 2, No. 4, 10/85
Selection of Cost-Effective Organic Removal Systems for Water Supply (Presentation with S. McLendon, J. Molloy, ASCE National Conference on Environmental Engineering, MA, 1985)
Use of Groundwater Modeling in the Selection of Water Treatment Alternatives (ASCE Specialty Conference, Computer Applications in Water Resources, NY, 06/85)
A One-Dimensional Mathematical Model of Virus Transport (2nd Int'l Conference, Groundwater Quality Research, OK, 03/84)
Application of Groundwater Models to the Identification of Contaminant Sources (NWWA Conference, Practical Applications of Groundwater Models, OH, 08/84)
Design of Groundwater Monitoring Systems at Hazardous Waste Disposal Sites (Spill Control and Hazardous Waste Conference, CT, 09/83)
A Rational Approach to the Design of Groundwater Monitoring Systems, Using Bayesian Decision Theory (NWWA, OH, 05/83)
Design of High Capacity Public Water Supply Wells in Contaminated Aquifer Systems (ASCE Nat'l Conference, FL, 03/1983)

MODELING EXPERIENCE

VIRALT

Southampton Hospital, Southampton, NY – Evaluated potential impact of medical waste viruses on public water supply wells.

Prickett Lonnquist Aquifer Simulation Model (PLASM)

Hampton Bays Water District, Hampton Bays, NY – Utilizing PLASM, Dr. Grosser reviewed the water distribution system design and its analysis and impact analysis of public water supply wells installation on nearby Sears Bellows Pond water levels.

PROFESSIONAL TEACHING

Polytechnic University, CUNY, NY Cooper Union, NY Adelphi University, NY Hofstra University, NY	Groundwater Hydrology & Pollution, Water Resources Modeling, Geochemistry, Flow Through Porous Media, Analysis of Stream/Estuary Pollution, Fluid Mechanics, Hydraulic Problems, Geostatistics, Hydraulics & Hydrology, PE Review Course

COMMUNITY ACTIVISM

Director, PWGC Students & Young Professionals Program, which features scholarships, students on the job and internship opportunities. Advocate for the promotion and education of sustainable environmental and engineering solutions for the public and private sector.