

*crossroads ventures llc*

**DRAFT**  
**Environmental Impact Statement**

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**Appendix 30**

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**Consultant's Qualifications**

**The Belleayre Resort at Catskill Park**

## **Consultant Qualifications**

the LA Group

Allee King Rosen & Fleming, Inc.

Alpha Geoscience

Emilio Ambasz

Creighton Manning Engineering, LLP

Delaware Engineering, PC

Harten Archeological Associates, Inc.

Robert Lamb Hart

Hillier & Associates

Love Enterprises and Associates, Inc.

Edwin H. McMullen & Associates

Richard L. Ragatz, RCI Consulting

Rettew Engineering & Surveying, PC

SE Group



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and Engineering, P.C.

## **Firm Description**

The LA Group is a land analysis, planning and design firm providing integrated services in landscape architecture, community planning, environmental analysis and civil engineering. Based in Saratoga Springs, NY, the firm maintains a branch office in Keene Valley, NY to monitor its North Country projects. The LA Group was founded in 1974 and has established a regional practice with projects located throughout the Northeast and beyond.

### ***Integrated Professional Staff Capabilities***

The LA Group's unique mixture of professional disciplines and staff capabilities allows the firm to provide a comprehensive approach to land planning and design. In addition to licensed landscape architects and civil engineers, our staff contains natural resource and community planners, grant and funding experts, and environmental specialists in biological habitats, wetlands, forestry, hydrogeology, right-of-way management, historic preservation, terrestrial and aquatic ecology, soils, integrated turf/pest management, and viewshed analysis. We also offer services, sales and training in the Geographic Information System (GIS), including digitizing, mapping, and spatial and resource analysis.

### ■ **Resorts/Visitor Centers/Tourism Facilities**

The LA Group has provided comprehensive services for many types of visitor centers, resorts and tourism facilities, including ski, golf and waterfront communities. Our experience has taught us how to protect as well as benefit from natural resources to enhance visitor amenities. Our site designs embody environmental responsibility, or sustainable design, and have afforded us a particular expertise in regulatory compliance.

The LA Group was selected by the *National Environmental Concerns Task Force* of the White House Conference on Travel and Tourism to present an overview of our comprehensive unit master plan for Gore Mountain Ski Area in North Creek. We achieved this national recognition for balancing environmental and economic goals of the state-owned ski area's phased master plan of facility upgrades. We are currently working on Gore's 2000 UMP.

Our firm has worked with the Olympic Regional Development Authority (ORDA) since 1977, when we began planning for the 1980 winter Olympics held in Lake Placid, NY. In addition to our work at Gore Mountain, previous projects with ORDA include: preparation of the 1987 UMP/EIS for Whiteface Mountain; homologation for cross-country ski trails at Mt. Van Hoevenberg; and the 1996/98 UMP/EIS for improvements to the luge and bobsled run in Lake Placid at Mt. Van Hoevenberg.

We've also successfully completed a variety of resort housing/recreational projects at the Hunter Mountain and Ski Windham resorts in the Catskills. Master planning and implementation design for resort housing, recreational and commercial amenities, and infrastructure engineering were typical components of these projects, including engineering design for water supply and sewage disposal systems and stormwater management plans. Additionally, we are currently master planning and preparing ski area resort improvements at Belleayre Ski Area (private sector) and Killington, Vermont.

The Sagamore Resort, an historic resort hotel located on a 60-acre site on Lake George, has been a continuing client since 1982. Our services have included environmental inventories and analyses; master planning and site design; rehabilitation of an historic golf course; and design of new luxury housing. Scope of work included environmental analyses and permitting, complete landscape design for all historic and contemporary site layouts, site engineering, and construction administration. We are currently providing permitting and site design services for the addition of a luxury spa there.

The LA Group has also participated in the design and environmental planning of over 20 golf courses. Many of these efforts required wetlands services, and projects have encompassed a variety of situations including private clubs and municipal and public courses. We have completed the comprehensive design, engineering and environmental services for new course design or course rehabilitation, and we have provided consulting services to several nationally-known golf course architects.



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■ **Environmental Analysis**

Over thirty percent of The LA Group's annual workload is derived from environmental analysis and compliance work. The firm's environmental division has successfully completed over 1,000 environmental assessment projects, including preparation of over 200 environmental impact statements for SEQRA compliance. This experience has afforded the firm a regional reputation as experts in SEQRA compliance and regulatory permitting. The firm is under contract to the NYS Department of Transportation, New York State Electric & Gas Corp., KCI Telergy, Iroquois Pipe Line Co., and Niagara Mohawk Power Corp. to provide environmental analysis and SEQRA compliance services through a continuing contract arrangement. We're a firm known for its ability to solve complex regulatory compliance issues responsibly and effectively and for working well with regulatory officials.

Our environmental staff includes *six wetlands experts*, all of whom have been trained in the unified federal method of wetland delineation sanctioned by the U.S. Army Corps of Engineers (ACOE). Staff members have worked for regulatory agencies, including the ACOE, as wetland biologists. In the past five years, The LA Group has successfully completed well over 200 wetlands projects, all of which required coordination with various regional offices of the National Environmental Protection Agency (NEPA), ACOE, Adirondack Park Agency and/or NYS Department of Environmental Conservation (DEC) as well as the Massachusetts Department of Environmental Protection (MEPA). Along with our wetland specialists, The LA Group employs a full-time staff of environmental scientists including terrestrial and aquatic ecologists who have extensive experience in surveying rare, threatened and/or endangered (rare) species and habitats. Staff also develop mitigation strategies for minimizing or eliminating impacts on habitats.

■ **Civil Engineering**

The LA Group's civil engineering staff includes licensed professional engineers with expertise in the areas of water treatment and distribution system design, sewage collection and treatment system design, roadway design and engineering, as well as stormwater management and erosion control design. As a component of the Gore Mountain UMP, our firm provided site and engineering design for parking, site circulation and snowmaking operations.

■ **Feasibility Studies, Site Layout and Landscape Design**

Nearly every development project design undertaken by The LA Group requires a feasibility study, to determine if a given site is not only suitable for a proposed development scheme but also can support construction within the client's budget and schedule. Site characteristics and regulatory requirements are identified and evaluated for their ability to accommodate the proposed development in an environmentally sound way. The feasibility study comprises a body of information that identifies the physical, economic and regulatory issues inherent in a proposed development and allows the client to make an informed decision on how to proceed.

Once a site has been established as suitable, an integrated LA Group staff team proceeds with the design of the site's layout and the landscape amenities. Again, regulatory requirements and client resources of time and financing govern the final site design. Several design alternatives will be developed to create a preferred scheme. The LA Group has undertaken this process for nearly every one of its site design projects which now number in the thousands.

■ **GIS Expertise**

Complementing the firm's professional staff qualifications and related project experience is its expertise in ARC/INFO Geographic Information System (GIS) technology. The LA Group is an established leader in the creative use of GIS applications, in the design and set up of GIS systems, and in the development of effective training programs for new users. With our GIS staff trained in landscape architecture and resource planning, we have the capability to conduct sophisticated analyses of and map resource characteristics, and to model future conditions under different planning scenarios.





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### **Services**

Listed below are representative services provided by The LA Group.

#### **Environmental Analysis and Planning**

- Environmental Impact Statement Preparation
- SEQRA and Regulatory Compliance
- Environmental Auditing
- Wetland Identification, Delineation and Mitigation Design
- Soils Identification, Analysis and Classification
- Agricultural Value Assessment
- Natural Resource and Habitat Inventories
- Groundwater Studies
- Surface Water Hydrology
- Lake Reclamation Planning
- Visual Impact Analysis
- Integrated Turf Management Plans

#### **Landscape Architecture**

- Site Selection and Feasibility Studies
- Site Analysis
- Comprehensive Site Master Planning and Design
- Landscape Design
- Historic Landscape Restoration Design
- Recreational Planning and Design

#### **Community Planning**

- Comprehensive Community Master Planning
- Zoning Law Evaluation and Preparation
- Land Use Regulation Evaluation and Preparation
- Socio-economic and Demographic Survey and Analysis
- Natural and Built Resource Inventory and Analysis
- Historic Preservation Planning
- Public Participation Program Design and Administration
- Training in SEQRA and Regulatory Compliance

#### **Civil Engineering**

- Roadway Design and Engineering
- Water Treatment and Distribution System Design
- Sewage Collection and Treatment System Design
- Stormwater Management and Erosion Control Design
- Open Channel Hydrology

#### **GIS/CADD/Computer Analysis Capabilities**

- GIS Resource Inventories, Spatial Analysis and Mapping
- GIS ARC/Info Data
- GIS Training and Software Sales
- Full AutoCAD Capabilities (Land CADD and DCA Site Engineering)
- LEACHM and CREAM Modeling for Pesticides
- TR-20, TR-55 Stormwater Modeling
- HEC 1, 2 and 3 Storm and Floodway Modeling



## **Related Experience - Recreation / Resort / Tourist Facilities**

### **MT. VAN HOEVENBERG UMP/EIS (1996)**

#### **Lake Placid, NY**

The project involved the master plan for improvements to the facility as well as preparation of a UMP/EIS. The project included upgrades to the cross-country trails and stadium, biathlon trails, parking lots, snowmaking for the trails, renovation and additions to structures, lighting of some trails and the replacement of the luge and bobsled runs with a combined luge/bobsled run. The scope of consultant work included assessment of the facility based on its environmental setting with an inventory of existing facilities, development of an organizational structure and management objectives, identifications of needs and priorities for maintenance and operational and capital budgets for implementation of a five year plan.

### **GORE MOUNTAIN UMP/EIS (1987 UMP/EIS, 1994 MASTER PLAN AND UMP/EIS, 2000 UMP)**

#### **North Creek, NY**

All projects involved preparation of a comprehensive unit management plan for substantial improvements to Gore Mountain Ski Center including new ski trails, ski lift facility, snowmaking equipment, parking areas, base area circulation, and lodges. The scope of work included assessment of the facility based on its environmental setting with an inventory of existing facilities; development of an organizational structure and management objectives; identification of issues, needs and priorities for maintenance, operation and capital investment for a five-year period. Work for the first UMP was completed in 1986 and work for the second UMP and EIS has completed in February of 1995. The second UMP included detailed consideration of potential impacts to the Hudson River and watershed from Gore Mountain to the river related to the installation and operation of the snowmaking water intake in the Hudson River.

### **WHITEFACE MOUNTAIN SKI CENTER UNIT MANAGEMENT PLAN (UMP) UPDATE AND AMENDMENT 2001**

#### **Wilmington, NY**

Unit Management Plan for a year-round recreational day-use facility and tourism destination located on NYS Forest Preserve Lands within the Adirondack Park.

### **WHITEFACE MOUNTAIN UMP/EIS (1987)**

#### **Wilmington, NY**

The project involved preparation of a comprehensive unit management plan for improvements to Whiteface Mountain Ski Area. The LA Group participated as a consultant in this process and was responsible for plan development, project inventory mapping and report graphics.

### **BELLEAYRE FOUR-SEASON RESORT**

#### **Ulster County, New York**

Environmental planning services and local, state and federal permits for a four-season resort on 2,300 acres of land adjacent to an existing ski center. The resort includes two hotels, a variety of housing types, two golf courses, an alpine village with a commercial retail center and other forms of recreation including golf school, theater/performing arts, tennis, trails, and swimming.

### **SHAWANGA LODGE**

#### **Mamakating, New York**

Comprehensive site assessment, feasibility analysis, environmental impact assessment and project management for a new resort facility on a 350-acre site. Resort plans include a hotel, gaming facility, restaurant, and recreational support amenities.

### **EAGLE MOUNTAIN RESORT**

#### **Wurthsboro, New York**

Comprehensive land planning, environmental analysis, permit applications and site design services for a new resort and related recreational amenities on a 900-acre site. Initial concept plans for the vacation resort include a 200,000 sf convention center; four 300-room hotels each with a variety of support and recreational components; commercial space; an equestrian center; two golf courses with clubhouses; a winery; and recreational trails. Support facilities such as parking, access roads, lighting, walks, and signage are also included in the scope of services.



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## **Related Experience - Recreation / Resort / Tourist Facilities**

### **APPLE TREE BAY RESORT**

#### **Burlington, VT**

Comprehensive master plan and design to improve and expand the Apple Tree Bay Resort on Lake Champlain. The project goal was creation of the optimal mix of facilities and activities to result in an attractive and economically profitable resort.

### **TOPRIDGE SINGLE FAMILY HOME DEVELOPMENT**

#### **Killington, VT**

Professional landscape architectural and civil engineering services for the redesign of an area at Topridge on Killington of approximately 30 additional single family residential units. The redesign incorporated a reorientation of the building sites to take better advantage of views, respond to the topographic conditions and ski trail locations. Two types of building sites were created, more clustered lots for the high-end unit offering and larger lots at the end of cul-de-sacs and fringes of the project for custom designed units.

### **SUNRISE MOUNTAIN VILLAGE**

#### **Killington, VT**

Master plan for the determination of opportunities and constraints for ski lodge development of approximately 130 units at Sunrise Mountain Village. The lodges occur in five-unit buildings in proximity to the base recreational facility and chair lift loading area. The scope of services focused on identifying the best approach to siting the buildings to take advantage of the views, vistas and ambiance of the village area as well as practicality of construction, site circulation characteristics and natural resource constraints and opportunities.

### **SITTING BULL RANCH RESORT**

#### **Warrensburg, New York**

Adirondack Park permit applications and civil engineering services for the re-establishment of a former vacation resort in the Adirondacks. Scope of services included a water filtration system and design of new on-site sanitary sewer disposal system.

### **NORDIC RUN**

#### **Minerva, NY**

Comprehensive site planning, design and civil engineering for 30-unit townhouse development near Gore Mountain Ski area including recreational amenities. Engineering scope required design of on-site sewage treatment and disposal system comprised of septic tanks and leach fields. Five separate systems were necessary to accommodate building clusters. Site design included roadways and circulation, pedestrian walkways, cross-country ski trails, parking layout and overall landscape plan.

### **HUNTER MOUNTAIN SKI SLOPE WATER SUPPLY**

#### **Hunter, NY**

Complete engineering design of water resources management system to accommodate snow making operations. Scope included analysis of stream flow to prevent stream depletion and satisfy NYS Department of Environmental Conservation regulations to mitigate impacts on site.

### **CORTINA VALLEY SKI RESORT**

#### **Haines Falls, NY**

Comprehensive site analysis, master planning and environmental assessment for resort development including ski area, 18-hole golf course; ski lodge/motel and housing subdivision. Scope included construction documentation for site parking areas.



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## **Related Experience - Recreation / Resort / Tourist Facilities**

### **CRYSTAL POND**

#### **Windham, NY**

Comprehensive site analysis, planning, design and environmental analysis for 19-acre ski resort development with 110 townhouses. Scope included design of infrastructure; tennis courts, swimming pool, trails, footpaths; parking; on-site waste treatment plant; stormwater management system; on-site water system; landscape plan. Regulatory permitting required instream flow studies, waste assimilative capacity study and stream bank disturbance study.

### **BRAINARD RIDGE**

#### **Windham, NY**

Comprehensive site planning, design and engineering for 85-unit resort townhouse development on 8.5-acre site at ski center. Scope included design of circulation and roadways; stormwater management system; parking areas; tennis courts; walkways and paths.

### **WINDHAM RIDGE CLUB**

#### **Windham, NY**

Complete site master planning, design and engineering for phased development of 265-unit resort community on 340-acre site with 18-hole championship golf course designed by Geoffrey Cornish, clubhouse and restaurant, stables, indoor/outdoor tennis facilities and 200-lot subdivision. Design involved traffic circulation and roadways, parking, landscape plan, and regulatory permitting.

### **OLYMPIC SPORTS COMPLEX UNIT MANAGEMENT MASTER PLAN**

#### **Lake Placid, NY**

Comprehensive master planning and generic environmental impact statement (GEIS) preparation for sports and public recreational facilities including bobsled and luge runs, cross-country skiing trails and biathlon courses for competitive winter sports, and hiking, trail bike, and horseback trails, target shooting and wheeled bobsled riding for summer activities open to the public. Scope included inventory and mapping of existing conditions; program development for trails, track, spectator facilities, communications support facilities, lodges, maintenance/storage areas and parking/circulation, site utilities, roadways; alternative design development for facility improvements and updates; and preparation of master plan and GEIS including public hearing and Adirondack Park Agency review.

### **VISITOR SUPPORT FACILITIES AT XIII OLYMPIC WINTER GAMES**

#### **Lake Placid, New York**

Comprehensive site master planning, design, construction documents, cost estimating, construction administration and Adirondack Park Agency permitting for spectator support facilities at locations for cross-country skiing, bobsled, luge, biathlon, slalom and ski jump. Facilities included concession stands, comfort stations, spectator seating, parking, lighting, fencing, emergency stations, TV broadcasting and staging areas, graphics and signage. Site design for speed skating oval involved conversion of school athletic fields and design for temporary and permanent spectator seating, main entrance, ticket/ information center, administrative and maintenance space, pedestrian and vehicular access, snow removal. Project also included site design for Olympic Administrative Center and for new maintenance garage that was taken over by the town as a permanent facility.

### **HILAND PARK**

#### **Queensbury, NY**

Comprehensive site master planning, design, engineering and environmental impact analyses for phased development of planned community on 900-acre site. Project included 1157 dwelling units with townhouses and single family lots; 18-hole championship golf course and clubhouse; retail and commercial facilities; office park; inn and conference center; retirement community with congregate care facilities; and extensive recreational amenities: multi-purpose trail system, jogging and biking paths, cross-country ski trails, indoor/outdoor health and racquet center. Scope included engineering design of detention basin stormwater management system, on-site inground sewage disposal and on-site septic systems; traffic master plan, design of vehicular and pedestrian circulation routes and roadways with grading and drainage plans; extensive environmental analyses including wetland identification and delineation, stream corridor analysis and management plan. *Project received design award from the National Commercial Builders Association.*



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## **Related Experience - Recreation / Resort / Tourist Facilities**

### **SAGAMORE RESORT RESIDENTIAL DEVELOPMENT**

#### **Bolton Landing, NY**

Comprehensive site and engineering design and environmental impact analysis for new construction of 120 townhouse units at golf course with sewage treatment plant, parking areas, stormwater management system, site utilities, tennis courts, swimming pools and landscape plan. Scope also included identification of major environmental impacts, extensive analysis of alternative sites, and development of mitigation measures for erosion control, vegetative management, stormwater management, and sewage treatment plant with disposal system to reduce effluent nutrient concentrations. Rehabilitation of historic golf course designed by Donald Ross in 1927 included research and analysis of existing conditions; rehabilitation plan; design of fully automated irrigation system, 11 million-gallon water storage reservoir/ decorative pond; pesticide containment structure.

### **QUECHEE GORGE COMPREHENSIVE TOURISM AND TRANSPORTATION PLAN**

#### **Hartford, VT**

Comprehensive master plan for the waterfront recreational area to address visitor facility needs, vehicle and pedestrian safety, highway and bridge improvements, and economic and build-out analyses. Scope included inventory and analysis of existing facilities; public participation program; economic analysis; user survey; identification and rating of scenic assets; roadway and bridge analysis; and plan development. Based on 10- and 20-year scenarios, the plan includes physical, regulatory, institutional and programmatic components and an implementation program. The scope also involved a cost-benefit analysis of future business growth, visitation, traffic and development infrastructure expenses. Conceptual designs and cost estimates were prepared for physical improvements.

### **RECREATIONAL STUDY OF THE ADIRONDACK PARK**

#### **Adirondack Region, NY**

Comprehensive planning study of existing recreational facilities in the 6-million-acre Adirondack Park to evaluate recreation opportunities. Scope included data collection, GIS base map preparation; identification and evaluation of potential opportunities to determine location, type and ability to implement; feasibility study of each identified recreational opportunity including management and protection needs; identification of preferred opportunities; survey of potential funding sources; preparation of report outlining project process and recommendations.

### **RECREATIONAL RESOURCE INVENTORY**

#### **Northern Forest Lands Inventory Study Area, NY**

Comprehensive recreational resource inventory and GIS mapping for the Northern Forest Lands Inventory Study Area comprising New York State north of the Mohawk River. Data layers include boat access points, canoe routes, public fishing access points, picnic areas, campgrounds, downhill and cross-country ski areas, climbing locations, bicycle routes, trails, lean-tos/unimproved camping areas, fire towers, and other special facilities. A complete set of descriptive attributes for each of the facilities was added to the data base including existing conditions, and recommendations were made for improvements.

### **ANCA MOUNTAIN BIKE TRAILS STUDY**

#### **Adirondack Park, NY**

Comprehensive planning study to identify existing mountain bike trails, assign preliminary classifications, develop additional trail data for incorporation into Northern Forest Lands Council recreation facilities inventory. Scope included meetings with user groups, county recreation and tourism officials, and foresters to determine trail location, degree of difficulty, and distance, and preparation of a detailed trail guide and informational brochure.

### **MASTER PLAN FOR ROGERS ISLAND CULTURAL PARK**

#### **Fort Edward, NY**

Comprehensive master plan, environmental analyses, site design, engineering, and permitting for waterfront park with recreational amenities on 32.5 acres of Rogers Island, a National Historic Landmark. Scope included design of recreational and interpretive features based on archaeological research. Facilities include a 400-slip marina, clubhouse, health club, tennis courts, boat storage yard and support facilities. Design included parking, roads and circulation, infrastructure and utilities including a boat wastewater pump-out facility, picnic area, rest rooms, grading and drainage, stormwater management, and landscape amenities.



## **Related Experience - Recreation / Resort / Tourist Facilities**

### **THE WOODLANDS**

#### **Jay, NY**

Comprehensive site analysis, master planning, design, engineering, environmental assessment, regulatory compliance and permitting for recreational resort development on 4,200-acre Adirondack parcel with 19-acre lake. Scope included layout of four cluster villages, each with its own recreational facilities and village center. Project included single-family and attached housing units, hiking, horseback riding and snowmobiling trails; sports club facility; 18-hole championship golf course and clubhouse facility; park development around lake; central sewage disposal facilities for each village, septic tanks and leach fields for detached units. Scope also involved existing conditions/natural resource inventory and analysis, including special biological resource inventory, character identification and assessment for trail development and project impact evaluation; identification of project impacts on existing environment and design of mitigation measures to meet regulatory requirements of Adirondack Park Agency (APA); preparation of pre-application report and APA application for project review; project representation at APA hearings.

### **WEATHERFIELD AT THE ALBANY COUNTRY CLUB**

#### **Guilderland, NY**

Comprehensive site analysis, planning, design and engineering for multi-phase development of golf course community with 750 townhouse and detached units on 250 acres. Scope included design of roadways and circulation; grading plan, drainage system and layout design for five ponds; water and sewer systems; and landscape and planting plans. Design of on-site sewage pump station required determination of electrical needs and design of back-up generator to provide continuous pump station operation.

### **LAGOON MANOR**

#### **Bolton Landing, NY**

Comprehensive site planning, design, engineering, environmental analysis and governmental permitting procedures for renovation and expansion of lakeshore resort including 35 townhouses, marina, tennis courts, beachfront development, clubhouse, swimming pool and parking areas. Engineering design included on-site inground sewage treatment and disposal system including several pumping stations for waste water; chlorination processing system for use of lake water and regulatory approvals. Project location within Lake George basin/watershed required NYS DEC, NYS DOH, Adirondack Park Agency and Lake George Park Commission approvals with stringent permitting and review procedures.

### **GREEN HARBOUR RESORT**

#### **Lake George, NY**

Complete site planning, design, engineering, and environmental analysis for planned lakeside resort community of 70 townhouses and 29 single family lots on 94 acres. Scope included design of beachfront recreational amenities with marina, picnic area, parking areas, dockside walkway, scenic overlook with stone wall and steps, flagpoles and plantings, volleyball court, and shuffleboard area; overall graphics and signage package. Site stormwater management system designed and engineered to meet state, regional and local regulatory requirements, including the Adirondack Park Agency.

### **ADIRONDACK REGIONAL CONFERENCE/MEETING CENTER STUDY**

#### **Greater Adirondack Region, NY**

Feasibility study, master plan and site selection for regional resort industry to expand conference facilities. Scope included needs determination based on market, cost and location; determination of suitable locations and facility amenity packages; development of marketing strategy for facility use.

### **TUXEDO FIELDS**

#### **Tuxedo, NY**

Preparation of environmental impact statement and design of mitigation measures for golf resort development of 256 units on 494-acre site. Project includes 18-hole championship golf course designed by Rees Jones; clubhouse, swimming pool and tennis courts; extensive nature trails; and public park featuring ruins of 19th century stone blast furnace. Scope included site layout, stormwater management system with detention ponds, on-site sewage treatment plant and collection system, wetland delineation, and integrated pest management program using LEACHM computer simulation.



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## **Related Experience - Recreation / Resort / Tourist Facilities**

### **KINDERHOOK COUNTRY CLUB**

#### **Kinderhook, NY**

Site master planning, design, engineering, environmental impact analysis and permitting for golf resort community on 530-acre site. Project components include 225 units of townhouses and single family housing, 18-hole championship golf course designed by Geoffrey Cornish, and clubhouse.

### **GIDEON PUTNAM HOTEL AND GOLF COURSE AT THE SPA RESERVATION**

#### **Saratoga Springs, NY**

Site planning and design for addition to historic resort hotel including site utility connections, landscape and planting plan, stormwater management, sidewalks and curbing. Engineering design for fully-automated irrigation systems for 9- and 18-hole golf courses including construction documentation, and bid and construction administration. Complex construction scheduling required phased installation of system components to insure uninterrupted course use.

### **MINISCEONGO COUNTRY CLUB**

#### **Ramapo, NY**

Site analysis, planning, design, engineering, environmental impact statement, permitting, and construction administration for country club development on 200-acre site. Scope included irrigation engineering; wetlands delineation, permitting, mitigation design and construction monitoring; integrated pest management program; and integration of natural site features into the landscape design including stone walls, arbors, curvilinear driveways, pedestrian paths, site lighting, detention ponds and discreet parking areas.

### **SARATOGA LAKE COUNTRY CLUB**

#### **Stillwater, NY**

Feasibility study, master plan, site and golf course design, site engineering, environmental analysis, regulatory permitting and compliance for 18-hole golf course on a 211-acre site. Scope included analysis of existing conditions, infrastructure, regulatory controls, market demand, program development; conceptual design; economic feasibility study; development and operating strategy. Scope also included integrated pest management program, engineering design for 1/2-mile extension of existing water system and distribution piping, and golf course irrigation system design.

### **SHERATON HOTEL**

#### **Saratoga Springs, NY**

Comprehensive site planning, design and engineering for rehabilitation of two-block urban parcel and new construction of 150,000 sf hotel and 65,000 sf. convention center. Scope included design of stormwater management system, site circulation, parking, sidewalks, exterior courtyard, landscape and planting plan, lighting and utility connections. Subsequent 50,000 sf expansion of hotel to include ballroom and residential additions required redesign of roads and circulation, new entrance plaza and landscaping, and alternative engineering designs for water main relocation including hydraulic analysis, pipe sizing and distribution layout, and cost estimates. *The project received a design award from the New York State Association of Architects.*

### **LIFTSIDE RECREATIONAL COMMUNITY**

#### **Hunter, NY**

Comprehensive environmental impact analysis and engineering design for 110-townhouse community adjacent to Hunter Mountain ski area. Design included on-site waste treatment plant, stormwater management system, road and storm sewer layout, on-site water system, grading, and drainage. Project also included rehabilitation of existing engineered systems for 75 detached residences and base ski lodge, and complete landscape design.



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## **Related Experience - Recreation / Resort / Tourist Facilities**

### **STREAMSIDE COMMUNITY DEVELOPMENT**

#### **Windham, NY**

Comprehensive site planning, design, and engineering for 11-acre development including 40 townhouses and commercial building. Design included roadways, landscaping, entrance enhancement, on-site water and sewer systems for NYS DOH, DEC and NYC DEP permits, site lighting, tennis courts and parking areas.

### **THE LINKS GOLF COURSE**

#### **Unionvale, NY**

Site analysis, planning, design, engineering, environmental impact statement, regulatory permitting, and construction administration for development of golf course and country club on 200-acre site. Scope also included irrigation engineering; wetland delineation, permitting mitigation design and construction monitoring; development of integrated pest management program; and integration of natural site features with the landscape design including stone walls, arbors, curvilinear driveways, pedestrian paths, site lighting, detention ponds and discreet parking areas.

### **SCHUYLER MEADOWS COUNTRY CLUB**

#### **Loudonville, NY**

Master planning and site engineering for the layout of 48 single-family fairway lots at existing country club.

### **WILLOW POND COUNTRY CLUB/MOUNTAINVIEW ESTATES**

#### **Whitehall, NY**

Comprehensive site feasibility analysis, master planning, design, engineering and environmental impact analysis for 9-hole public golf course and 217 housing units.

### **AMSTERDAM GOLF COURSE**

#### **Amsterdam, NY**

Feasibility study and master plan for the development of vacant lands at a municipal golf course. Scope included market analysis of proposed joint venture between city and private developer, and environmental impact analysis of proposed development.

### **SARATOGA SPA GOLF COURSE**

#### **Saratoga Springs, NY**

Comprehensive engineering design for new, fully-automated irrigation systems for 9-hole and 18-hole courses. Scope included design for complete replacement of existing system, with construction documentation, bid and construction administration. Development of phased construction schedule allowed course play to continue without interruption.

### **WINDMONT RESORT**

#### **Windham, NY**

Complete site master planning for 400-unit resort community with 18-hole championship golf course designed by Geoffrey Cornish and other recreational amenities on a 700-acre site. Scope included site layout and circulation, grading and drainage, site utilities and landscaping.

### **EAST GREENBUSH GOLF COURSE COMMUNITY**

#### **East Greenbush, NY**

Site master planning for a 200-unit residential community with 18-hole championship golf course. Scope included site layout and design, preliminary engineering, roadway design, grading and drainage, utilities siting, environmental analyses and wetlands investigations.





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## **Related Experience - Recreation / Resort / Tourist Facilities**

### **ARGYLE COUNTRY CLUB**

**Argyle, NY**

Site feasibility analysis, master planning and preliminary design for 18-hole championship golf course and clubhouse facility. Course layout and design required identification and delineation of 40-acre wetland on site and mitigation design.

### **SARATOGA GOLF AND POLO CLUB**

**Saratoga Springs, NY**

Overall analysis of existing 9-hole course to determine potential affects of proposed neighboring development, including impacts to course drainage and stormwater management.

### **EDGE HILL COUNTRY CLUB**

**Ashfield, MA**

Comprehensive master planning, site design and environmental impact analysis for an 18-hole golf course. Scope included analysis of critical issues such as impact of golf course construction on-site wetlands and surface water resources.

### **WOODCREST COUNTRY CLUB**

**Cherry Hill, NJ**

Comprehensive master planning and engineering for the upgrade of an 18-hole golf course. Scope included extensive drainage improvements, erosion control, stormwater impoundments and restoration of disturbed areas.

### **HALFMOON GOLF COURSE COMMUNITY**

**Halfmoon, NY**

Complete site master planning and design for a 225-unit residential community with 18-hole municipal golf course. Scope included site layout and design, golf course design, roadways, grading and drainage, wetlands delineation, and environmental analyses.

### **BLUE HERON HILLS COUNTRY CLUB**

**Macedon, NY**

Analysis of regulatory compliance requirements for existing wetlands on the course and redesign of hole #8 to improve the tee approach, surrounding play area, and pond edge and shape, and reconfigure the tee. Scope also included preparation of construction and permit documentation.

### **MC GREGOR LINKS COUNTRY CLUB**

**Wilton, NY**

Master plan, preliminary site design and engineering for upgrades and renovations to established 18-hole course including improvements to turf quality and maintenance, stormwater management system, and landscape amenities. Plan also addressed site access, circulation, parking, and lighting. Scope included phased improvement program with cost estimates.



## **Related Experience - Large-Scale Site Master Planning and Implementation Design**

### **CORNELL UNIVERSITY THE ORCHARDS DEVELOPMENT PROGRAM**

#### **Ithaca, NY**

Preparation of generic environmental impact statement for 30-year development of 600-acre campus area. Scope included analysis of existing and proposed land uses and land use ordinances; state and federal wetlands delineation; cultural resources to identify archaeological and historic components; existing conditions and future needs of utility/infrastructure systems; terrestrial and aquatic ecology; pedestrian environment; transportation systems; water systems and resources; soils and geology; noise; use and conservation of energy resources; and growth-inducing factors; determination of impacts, and recommended mitigation measures and development alternatives.

### **STATE FARM INSURANCE NORTH ATLANTIC REGIONAL HEADQUARTERS AND PLANNED DEVELOPMENT DISTRICT**

#### **Malta, NY**

Preparation of environmental impact statement and landscape design for the planned development of corporate headquarters, commercial and retail facilities on 193-acre parcel. Phase one of involved construction of the regional corporate offices, a 325,000 sq. ft. building to house 630 people. Subsequent construction includes retail and commercial structures and enlargement of corporate offices to 515,000 sq. ft., accommodating 1958 employees at full occupancy. Scope included extensive site investigations, issue identification and analysis, successful representation of client at local planning and zoning boards and permit applications, and coordination of multi-discipline consultant team. Recommended mitigation measures addressed traffic impacts; compatibility with existing land use; visual impacts; air quality; stormwater runoff; potable water source and adequacy; solid waste disposal; sewer district capacity; historic and archaeological resources; impact on wetlands; and effects on employment and economics. Landscape design and engineering for the first phase of construction included a corporate entrance area integrating native plant materials, access roadway to state highway, a water-conserving drip irrigation system, parking areas, and landscape amenity areas. *Project received design award from NYS Nursery/Landscape Association.*

### **VA NATIONAL CEMETERY**

#### **Saratoga, NY**

Comprehensive site analysis, master planning, design, engineering, construction documents, cost estimating and construction observation for \$12 million first phase of new \$36 million national cemetery on 250-acre site. Design included entrance area, memorial walkway and donation area, conversation areas, meditation spaces, roadways, site furnishings, signage, parking, garden niches, grading and drainage, turf management plan and operations manual, landscape and planting plans, site utilities, scenic views, ADA compliance, and traffic and pedestrian circulation. Scope required master plan for the full build-out of the site, overall project management and coordination of large sub-consultant team.

### **MASTER PLAN AND PHASE I DEVELOPMENT FOR COMMONWEALTH OF MASSACHUSETTS STATE VETERANS' CEMETERY**

#### **Agawam, MA**

Site analysis, master planning, design, environmental compliance, engineering, construction documents, cost estimating and construction observation for new State Veterans' cemetery on a 57-acre site. Design scope included entrance area, memorial walkway and donation area, meditation spaces, roadways, traffic and pedestrian circulation, site furnishings, signage, parking, garden niches, maintenance facility, administration building, assembly area, landscaping, ADA compliance, stormwater management, on-site water and irrigation system, and on-site sewage disposal system. Scope required master plan for the full build-out of the site, overall project management and coordination of large sub-consultant team. The plan also reflects the history of the region, the culture of the people, and the veterans of the area.



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## **Related Experience - Large-Scale Site Master Planning and Implementation Design**

### **SARATOGA PERFORMING ARTS CENTER RENOVATION**

#### **Saratoga Springs, NY**

Comprehensive site analysis, environmental assessment, master planning, site and engineering design for \$4.4 million renovation of outdoor performing arts center. Constructed in 1966 at the Saratoga Spa State Park, the center is the summer home of the Philadelphia Orchestra, New York City Opera and New York City Ballet and serves as a concert venue for contemporary performers and festivals. Components of the site renovation design include amphitheatre lawn area improvements, site lighting, automated irrigation, ADA compliance, parking area rehabilitation, pedestrian circulation and walkways, increased infrastructure capacity including water, storm and sanitary systems, and improvements to overall site access. The grounds surrounding the amphitheatre were improved to include new rest room facilities (upgraded sanitary connection to increase toilet count by 300%) and expanded vendor service areas with underground connections for electricity, hot and cold water, sewer and natural gas.

### **THE GREAT ESCAPE AMUSEMENT PARK**

#### **Queensbury, NY**

Comprehensive environmental analysis, impact statement preparation and design of mitigation measures for additions and improvements to popular 45-year-old fun park located in the Lake George resort area. The amusement facilities, which attract over 500,000 people during the summer season, include a water rapids ride, carousels, trains, thrill rides, children's rides, arcades, small theatres, petting zoos, three-dimensional movies, playgrounds, and adventure walks. Support facilities include shops, restrooms, snack bars, picnic areas and parking. Improvements included addition of historic comet roller coaster (1946), water-oriented theme park (Noah's Spray Ground) and new thrill ride (Black Cobra). Impacts identified and addressed included noise, visual/aesthetics, parking and traffic. Project required analysis of existing environmental setting (geology, soils, topography, slopes, surface water, groundwater, vegetation, wetlands, wildlife, climate, air quality, demographics, land use, zoning, public services, utilities, and historical and archaeological resources), engineering design of water, waste water and stormwater management systems, administration of SEQRA process and regulatory permitting.

### **OIL CITY REDEVELOPMENT**

#### **Syracuse, NY**

Comprehensive environmental analysis of large-scale redevelopment projects within a 650-acre commercial and industrial urban area. Scope included infrastructure mitigation plan for roadway design and repair; identification and analysis of environmental impacts associated with each development project including Franklin Square, a residential area, and Carousel Center, a retail/commercial center.

### **CAROUSEL CENTER**

#### **Syracuse, NY**

Preparation of comprehensive environmental impact statement for 1.4 million sq. ft. retail and commercial center with community access space on 50-acre site. Multi-level, climate-controlled facility included infrastructure improvements and extensive landscaping. Scope of services included thorough on-site investigations; demographic, historic and archaeological research; scientific and civil engineering analyses; and coordination of multi-discipline consultant team. Critical issues addressed were parking and traffic impacts; air quality; stormwater management; public safety and security; lighting and signage; and impact of extensive site clearing of former industrial area.

### **HOUSATONIC RIVER GREENWAY FEASIBILITY STUDY AND TRAIL DESIGN**

#### **Great Barrington, MA -**

Master plan study and design for greenway extension along the municipal sewer line to include trails for bicycling, walking, in-line skating, ski touring and river access for fishing and boating.



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## **Related Experience - Large-Scale Site Master Planning and Implementation Design**

### **CHAMPION LANDS RECREATIONAL FEASIBILITY STUDY**

#### **Franklin Herkimer, Lewis and St. Lawrence Counties, NY**

Comprehensive inventory and evaluation of three large timber tracts totaling 140,000 acres to determine the presence and significance of recreation, scenic and historic resources. Scope also included determination and evaluation of development constraints on the tracts. Study methodology involved review of existing information, interviews, field investigations, and aerial overflights, and study purpose was to determine an action plan for the future ownership, use and management of the resources.

### **RECREATION MASTER PLAN FOR THE ADIRONDACKS**

#### **Adirondack Park, NY**

Comprehensive master plan for muscle-powered recreational facilities in the 6-million-acre Adirondack Park including inventory of existing facilities, identification of potential new recreation opportunities, and GIS inventory mapping. Facility types included mountain and road bicycle trails, canoe access, climbing locations, cross-country ski trails, and hiking trails. Scope included recommendations for improved utilization of existing resources; contact with all Adirondack counties, municipalities, Adirondack Mountain Club chapters, appropriate agencies, interest groups and businesses; coordination with State Land Master Plan and existing unit management plans; and preparation of GIS-based inventory mapping with special attributes of boat access ramps and marinas, canoe routes, public fishing access, picnic areas, campgrounds, ski areas, climbing locations, road bicycle routes, trails, camping areas and fire towers.

### **NORTHERN FOREST LANDS RECREATIONAL INVENTORY**

#### **14 Counties in New York State**

Comprehensive inventory of recreational resources in 14 counties north of the Mohawk River including boat access ramps and marinas, canoe routes, public fishing access, picnic areas, campgrounds, downhill and cross-country ski areas, golf courses, amusement parks, visitor centers, historic sites, climbing locations, bicycle routes, trails, and lean-tos and unimproved camping areas. The inventory data were compiled on USGS maps using the GIS, and a facilities survey was developed with NYS Office of Parks, Recreation and Historic Preservation (OPRHP) to verify attribute data for each OPRHP facility in the project area. The project required collection, organization, compilation and verification of extensive amounts of existing information on recreational facilities, and an assessment of each facility's condition.

### **RECREATION SYSTEM DESIGN**

#### **Fulton County, NY**

Comprehensive master planning, site planning and design of linear recreation system along abandoned railroad right-of-way. Inventory and analysis of natural resources, environmental characteristics and infrastructure for site selection of various trails. Scope also included layout and coordination of trail systems for snowmobiling, cross country skiing, hiking, horseback riding, bicycling, snowshoeing and motorized vehicles.

### **GROWTH DEVELOPMENT TRENDS STUDY AND ZONING UPDATE**

#### **Town of North Elba, NY**

Preparation of comprehensive growth development trends study projecting build-out on a parcel-by-parcel basis. Scope included analysis and estimation of changes in water, sewer, traffic, demographic, employment, economic, wetlands, historic resource and environmental impacts. Based on results of study, proposed alternative revisions to town's land use, planning and zoning documents. Special issues included careful analysis of future development plans for highly visible, key travel corridors serving the village of Lake Placid, contained within the town. The study was followed by preparation of a comprehensive update to the town's zoning ordinance. GIS mapping included overlays and a new base map depicting individual tax parcels.



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**S. JEFFREY ANTHONY, ASLA**  
President

**Education**

MLA - Landscape Architecture/Regional Planning 1971

BS - Landscape architecture 1969

**Active Registration**

Landscape Architecture MA, NY, PA 1975

**Other Experience and Qualifications**

Mr. Anthony, founding principal of the firm, has over 25 years of professional experience in all aspects of land planning, site design and engineering, and environmental analysis. He has published articles on land use policy, and lectured at colleges and universities on environmental resource analysis. Mr. Anthony was appointed to the New York State Board for Landscape Architecture in 1989 and now serves as vice chair. Mr. Anthony's relevant project experience includes the following projects for which he was a project advisor/manager.

BELLEAYRE FOUR-SEASON RESORT Ulster County, NY - Environmental planning services and local, state and federal permits for a four-season resort on 2,300 acres of land adjacent to an existing ski center.

SHAWANGA LODGE Mamakating, NY- Comprehensive site assessment, feasibility analysis, environmental impact assessment and project management for a new resort facility on a 350-acre site.

CRESCENT HEIGHTS Mamakating, NY - Site assessment, feasibility analysis, and environmental impact analysis for a new resort facility on an 800-acre site in the Catskill Mountains.

EAGLE MOUNTAIN RESORT Wurtsboro, NY - Comprehensive land planning, environmental analysis, permit applications and site design services for a new resort and related recreational amenities on a 900-acre site.

SITTING BULL RANCH RESORT Warrensburg, NY - Adirondack Park permit applications and civil engineering services for the re-establishment of a former vacation resort in the Adirondacks. Scope of services includes a water filtration system and design of new on-site sanitary sewer disposal system.

HIGH ROCK AT SARATOGA SPRINGS Saratoga Springs, NY - Site analysis, planning, engineering, environmental impact statement, regulatory permitting, and construction administration for development of a new golf course and support facilities for New York State Office of Parks and Recreation.

MC GREGOR LINKS COUNTRY CLUB Wilton, NY - Master plan, preliminary site design and engineering for upgrades and renovations to established 18-hole course including improvements to turf quality and maintenance, stormwater management system, and landscape amenities.

EAGLE CREST GOLF CLUB Clifton Park, NY - Site analysis, planning, design, engineering, and permitting for improvements to existing golf facility.

PINE BROOK GOLF CLUB Gloversville, NY - Long-range master plan for site improvements to 9-hole course including drainage and stormwater management, parking, lighting, site aesthetics and landscape amenities.

SARATOGA GOLF AND POLO CLUB Saratoga Springs, NY - Site analysis of existing 9-hole course to determine potential affects of proposed neighboring development including impacts to course drainage and stormwater management.

BLUE HERON HILLS COUNTRY CLUB Macedon, NY - Analysis of regulatory compliance requirements for existing wetlands and redesign of holes #2 and #8 to improve the tee approach, surrounding play area, and pond edge and shape, and reconfigure the tee. Scope also included preparation of construction and permit documentation.



S. Jeffrey Anthony  
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KINDERHOOK GOLF COMMUNITY, Kinderhook, NY - Site master planning, design, engineering, environmental analysis and permitting for golf course community on 530-acre site. Scope also included use of LEACHM computer simulation to develop integrated pesticide management program.

MINISCEONGO GOLF CLUB Ramapo, NY - Comprehensive site master planning, environmental analysis, regulatory permitting, site engineering and landscape design for new golf course and club house. Scope included wetland delineation and mitigation design, and development of integrated pest management program using LEACHM computer modeling.

HILAND PARK, Queensbury, NY - Complete site master planning, design, engineering and environmental impact analysis for phased development of planned community on 900-acre site including housing, retail/commercial, office/park, inn/conference center, congregate care, golf course and recreational facilities.

GORE MOUNTAIN MASTER PLAN, North Creek, NY - Comprehensive inventory and analysis of natural resource, infrastructure and built physical characteristics, program analysis, and master plan preparation for facility improvements. Project also involved comprehensive engineering services for the snowmaking pipeline to the Hudson River, preparation of an environmental impact statement and Adirondack Park Agency permit, coordination of the review process, project representation at public hearings, and preparation of the unit management plan.

CITY OF TROY BROADWAY/WATERFRONT PEDESTRIAN ACCESS, Troy, NY -Preparation of design plans, bidding and construction documents for the re-establishment of pedestrian access between the Rensselaer Polytechnic Institute campus, downtown Troy and the riverfront.

ADIRONDACK NORTHWAY REST AREA IMPROVEMENTS Essex County, NY - Site design, engineering, and construction documents for two rest area, tourist and highway facilities including landscaping, utilities, lighting, signage, parking, pedestrian paths, environmental analysis, public participation program, and regulatory permitting.

NYS DOT WETLANDS TERM CONTRACT Regions 1-7 and 9, New York State - Comprehensive wetlands identification, analysis, mitigation design and permitting for various locations throughout New York State.

ADIRONDACK PARK VISITORS CENTER Adirondack Park, NY - Site selection study and environmental assessment for 80 sites including development and application of siting criteria; site evaluations; and regulatory reviews for visitor facilities including outdoor amphitheater, trails and landscape amenities.

QUECHEE GORGE TOURISM TRANSPORTATION PLAN Hartford, VT - Master plan for natural recreational area including inventory and analysis of existing resources, public participation program, economic analysis, user surveys, and traffic, roadway and bridge analysis. The plan addressed physical, regulatory, institutional and programmatic components with costs, funding mechanisms, regulatory considerations, timing and priority for each component.

EASTERN GATEWAY CANAL CORRIDOR DEVELOPMENT MASTER PLAN Rotterdam to Fort Edward, NY - Master plan, concept development, cost estimates and public presentations for revitalization of communities along the historic corridor.

HAMLET PRESERVATION PROGRAM Bolton, NY - Master plan and implementation design for revitalization of waterfront community including design and construction administration for ongoing implementation phases.



**C. MICHAEL INGERSOLL, ASLA**  
Principal

**Education**

BLA	Landscape Architecture	1982	SUNY College of Environmental Science
BS	Environmental Studies	1981	and Forestry, Syracuse University
AAS	Architectural Technology	1979	SUNY Alfred

**Registration**

Landscape Architecture New York

**Qualifications and Experience**

Mr. Ingersoll serves as principal-in-charge of design services, and has over 15 years of experience in all phases of site analysis, master planning, and landscape design. Certified by Harvard University's Graduate School of Design in recreational/golf course planning and design, Mr. Ingersoll specializes in master planning and site design for recreational communities and golf courses, including the analysis, layout and design of graphics and signage, landscape enhancement, site circulation systems, and parking facilities. Mr. Ingersoll's relevant project experience includes:

THE LINKS GOLF COURSE Union Vale, NY - Site analysis, planning, design, engineering, environmental impact statement, regulatory permitting, and construction administration for development of golf course and country club on 200-acre site.

MC GREGOR LINKS COUNTRY CLUB Wilton, NY - Master plan, preliminary site design and engineering for upgrades and renovations to established 18-hole course including improvements to turf quality and maintenance, stormwater management system, and landscape amenities.

EAGLE CREST GOLF CLUB Clifton Park, NY - Site analysis, planning, design, engineering, and permitting for improvements to existing golf facility.

PINE BROOK GOLF CLUB Gloversville, NY - Long-range master plan for site improvements to 9-hole course including drainage and stormwater management, parking, lighting, site aesthetics and landscape amenities.

SARATOGA GOLF AND POLO CLUB Saratoga Springs, NY - Site analysis of existing 9-hole course to determine potential affects of proposed neighboring development including impacts to course drainage and stormwater management.

BLUE HERON HILLS COUNTRY CLUB Macedon, NY - Analysis of regulatory compliance requirements for existing wetlands and redesign of holes #2 and #8 to improve the tee approach, surrounding play area, and pond edge and shape, and reconfigure the tee. Scope also included preparation of construction and permit documentation.

KINDERHOOK GOLF COMMUNITY, Kinderhook, NY - Site master planning, design, engineering, environmental analysis and permitting for golf course community on 530-acre site. Scope also included use of LEACHM computer simulation to develop integrated pesticide management program.

MINISCEONGO GOLF CLUB Ramapo, NY - Comprehensive site master planning, environmental analysis, regulatory permitting, site engineering and landscape design for new golf course and club house. Scope included wetland delineation and mitigation design, and development of integrated pest management program using LEACHM computer modeling.

HILAND PARK, Queensbury, NY - Complete site master planning, design, engineering and environmental impact analysis for phased development of planned community on 900-acre site including housing, retail/commercial, office/park, inn/conference center, congregate care, golf course and recreational facilities.

HALFMOON GOLF COURSE COMMUNITY Halfmoon, NY - Site master planning and design for a 225-unit residential community with 18-hole municipal golf course. Scope included site layout and design, golf course design, roadways, grading and drainage, wetlands delineation, and environmental analyses.

TUXEDO FIELDS Tuxedo, NY - Environmental analysis and site engineering for 500-acre development including 18-hole championship Rees Jones golf course. Scope included site layout, stormwater management system with detention ponds, on-site sewage treatment plant and collection system.



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**DAVID R. CARR, JR., ASLA**  
Landscape Architect

**Education**

BLA Landscape Architecture 1983 SUNY College of Environmental Science  
and Forestry at Syracuse University

**Registration**

Landscape Architecture New York

**Qualifications and Experience**

Mr. Carr has over 12 years of experience in all phases of site analysis, planning and design. He serves frequently as project manager and site designer for a wide variety of site development projects including housing projects. Mr. Carr also specializes in master planning for large-scale mixed-use developments and has overseen the administration and successful completion of all project phases from site analysis and site design through construction administration. His relevant project experience includes:

WATER'S EDGE Saratoga Springs, NY - Comprehensive site design, engineering, landscape plan and permitting for 150-unit multiple-family residential community including pedestrian and vehicular circulation, landscape and maintenance plan, parking, recreational amenities, lighting, utility layout and stormwater engineering, and regulatory approvals.

WEATHERFIELD MULTIPLE-FAMILY HOUSING, Albany, NY - Comprehensive site engineering, planning, design and environmental assessment for multi-phase 750-unit PUD on 250-acre site, including design of water and sewer systems, on-site sewage pump station, roadways and circulation, stormwater management system and site utilities.

SAGAMORE RESORT REHABILITATION Lake George, NY - Site planning, design, engineering, environmental assessment and permitting for comprehensive rehabilitation of campus-like resort layout including design of traffic circulation and roadways, extensive parking facilities, landscape and site amenities plan, storm drainage and grading, and intersection with existing roadway.

KNOX WOODS Halfmoon, NY - Complete site analysis, planning, design and engineering for 500-unit townhouse development including design of recreational; parking areas; graphics and signage system; circulation and roadways; stormwater management and sewer systems; water system and other utilities. Stormwater system design included detention ponds, piping and erosion control.

OLD SCHUYLERVILLE ROAD HOUSING Saratoga Springs, NY - Site analysis, planning, design, engineering, environmental analysis and permitting for 38-lot subdivision on 50-acre site including wetlands delineation.

COMMERCIAL PLANNED UNIT DEVELOPMENT Saratoga Springs, NY - Master planning, site layout and design, engineering and municipal approvals for development of 8-building commercial facilities on 10-acre site including access road and site circulation, infrastructure, grading and drainage, lighting and landscape design, municipal reviews and approvals.

SARATOGA LAKE COUNTRY CLUB Stillwater, NY - Feasibility study, design, engineering, environmental analysis, zoning change and regulatory compliance for development of 18-hole golf course on 211-acre site. Scope included analysis of physical and natural conditions, infrastructure, regulatory controls, market demand, program development; wetland delineation; stormwater management, conceptual design; economic feasibility; development and operating strategy.





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**DAVID M. MILLER, RLA**  
Landscape Architect

**Education**

BLA	Landscape Architecture	1990	SUNY College of Environmental Science and Forestry, Syracuse University
AAS	Landscape Architecture of	1987	SUNY Agriculture and Technical College Alfred

**Registration**

Landscape Architecture, New York

**Qualifications and Experience:**

Mr. Miller typically serves as a project manager and has over ten years of experience in site analysis, master planning, landscape design and technical production. He specializes in master planning and site design for community revitalization projects. Mr. Miller has produced the full range of related drawings including schematic, final design and construction documents for a wide variety of project types including parks, streetscapes and recreational facilities. His relevant project experience includes:

CITY OF TROY BROADWAY/WATERFRONT PEDESTRIAN ACCESS, Troy, NY -Preparation of design plans, bidding and construction documents for the re-establishment of pedestrian access between the Rensselaer Polytechnic Institute campus, downtown Troy and the riverfront.

SAGAMORE RESORT Bolton Landing, NY - Site analyses, master plan, design, engineering, cost estimating, construction observation, environmental analysis and regulatory permitting for 275-acre resort and golf course facility including irrigation and landscape ponds, pedestrian pathways, formal and naturalistic landscape plantings, utility coordination, on-site water and sewage systems; award-winning design; SHPO-certified for historic tax incentives.

HAMLET PRESERVATION PROGRAM Bolton, NY - Master plan and implementation design for revitalization of waterfront community including design and construction administration for ongoing implementation phases.

CITY OF ONEONTA PARKS MASTER PLANNING Oneonta, NY - Master planning and site design, inventory and mapping of existing facilities, development of 5- and 10-year improvement programs, and design and construction services for the first year's project. Design components include multi-use pathways, roads, parking, sports fields, signage, lighting and planting.

KERSHAW PARK WATERFRONT REVITALIZATION MASTER PLAN Canandaigua, NY - Site analysis, master plan, site design, engineering and construction documents for lakeshore and park revitalization including beach facilities, waterfront walkway, site lighting, parking, and landscaping. Scope also included development of shoreline stabilization program.

ROSE PARK LAKEFRONT Canandaigua, NY - Site analysis, master plan, site design and construction documents for lakeshore revitalization, including multi-use pathways, lighting and landscaping.

KEENE/NORTH ELBA SAFETY TRAIL - St. Huberts to Lake Placid, NY - Comprehensive planning and design for 23-mile off-road pedestrian and bike trail.



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and Engineering, P.C.

**DANIEL P. SHEEHAN, ASLA**  
Associate

**Education**

MLA	Landscape Architecture	1982	University of Massachusetts
BS	Environmental Design	1974	University of Massachusetts

**Registration**

Landscape Architecture                      New York

**Qualifications and Experience**

Mr. Sheehan has nearly 20 years of experience in all aspects of site analysis, planning and design. He serves frequently as project manager for the firm's municipal projects, overseeing such services as master planning; environmental analysis; design of site elements such as vehicle storage and maintenance, fuel storage and dispensing, roadways, pedestrian circulation, site lighting, athletic and playing fields, parking areas, overall landscape plan; bid documents preparation; bid process administration; and construction observation. Mr. Sheehan's relevant project experience includes:

BELLEAYRE FOUR-SEASON RESORT Ulster County, NY - Environmental planning services and local, state and federal permits for a four-season resort on 2,300 acres of land adjacent to an existing ski center.

SHAWANGA LODGE Mamakating, NY- Comprehensive site assessment, feasibility analysis, environmental impact assessment and project management for a new resort facility on a 350-acre site.

CRESCENT HEIGHTS Mamakating, NY - Site assessment, feasibility analysis, and environmental impact analysis for a new resort facility on an 800-acre site in the Catskill Mountains.

EAGLE MOUNTAIN RESORT Wurtsboro, NY - Comprehensive land planning, environmental analysis, permit applications and site design services for a new resort and related recreational amenities on a 900-acre site.

WILLSBORO TOWN PARK MASTER PLAN AND WETLAND TRAIL SYSTEM Willsboro, NY - Resource analysis, feasibility study, master planning, site design, engineering, cost estimating, construction documents, and public presentations for development of 95-acre municipal recreation area including design of 1.5-mile multi-use trail using existing system of old road beds; camping areas; swimming beach and bathhouse; boat access; parking; access roadways; ADA compliance; rest rooms; signage; utility and infrastructure layout; and shoreline stabilization.

SAGAMORE RESORT, Bolton Landing, NY - Environmental inventories and analyses, master planning and site design for rehabilitation of historic resort hotel on 60-acre waterfront site, rehabilitation of historic golf course, and design of new luxury housing. Scope included environmental analyses and permitting, complete landscape design for all historic and contemporary site layouts, site engineering, and construction administration.

SARATOGA COUNTY PUBLIC WORKS COMPLEX Ballston, NY- Site planning, design and engineering for 76,300 sf service garage, maintenance, fuel storage and office facility including 20 truck service bays, maintenance shops, salt and gravel storage, fuel distribution island and 200-car parking lot.

STATE FARM REGIONAL HEADQUARTERS Malta, NY - Site planning, design, EIS preparation, irrigation engineering and enhancement landscape for regional corporate headquarters and planned development district. Scope also included environmental permitting, client representation at planning and zoning boards, and securing of all approvals. Landscape design received awards from American Society of Landscape Architects and NYS Nursery/Landscape Association.

SARATOGA SPA STATE PARK GOLF COURSE Saratoga Springs, NY - Comprehensive engineering design for new fully-automated irrigation systems for 9- and 18-hole golf courses including construction administration with complex phasing plan to allow uninterrupted course play.



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**DEAN R. LONG, AICP**  
Director of Environmental Planning

**Education**

MS	Urban & Environmental Studies	1986	Rensselaer Polytechnic Institute
BA	Zoology	1978	SUNY Oswego

**Qualifications and Experience**

Mr. Long has directed and coordinated the efforts of the firm's environmental department since its inception in 1986. During this time, The LA Group has successfully completed over 300 environmental impact analyses for a variety of development projects including those involving historic commercial properties. Mr. Long has a thorough knowledge of regulatory compliance issues and requirements from the municipal to the federal level, and he has successfully represented numerous projects before review boards. In addition, Mr. Long is a specialist in aquatic resources and the impacts of nutrients and toxins. He has published several articles in professional journals and is a licensed Class 2A Sewage Treatment Plant Operator. Mr. Long's relevant project experience includes:

**MT. VAN HOEVENBERG HOMOLOGATION** Lake Placid, NY - Comprehensive site resource analysis and GIS mapping of cross country ski trails including slope analysis, identification of maximum gradients, lengths and total climbs and homologation report for international competition standards analysis.

**GORE MOUNTAIN UMP (1987 & 1995)** North Creek, NY - Comprehensive facilities inventory and analysis and preparation of unit management master plan for ski area including environmental analysis, APA permit application, environmental impact statement, site design and engineering for parking, site circulation, and snowmaking operations.

**LAKE PLACID RESORT** Lake Placid, NY - Comprehensive environmental analysis and assessment for redevelopment of historic resort on 900-acre parcel including biological inventories, visual impact analysis, wetlands identification, APA application preparation, and turf management and integrated pest management programs.

**SAGAMORE RESORT**, Bolton Landing, NY - Environmental inventories and analyses, master planning and site design for rehabilitation of historic resort hotel on 60-acre waterfront site, rehabilitation of historic golf course, and design of new luxury housing. Scope included environmental analyses and permitting, complete landscape design for all historic and contemporary site layouts, site engineering, and CA.

**SARANAC COGENERATION FACILITIES** Plattsburgh, NY - Environmental studies, EIS preparation, ROW management design and construction administration for cogeneration facilities, substations and transmission line including resource inventories, wetland delineation, mitigation and construction administration.

**HUNTER MOUNTAIN** Hunter, NY - Civil engineering design for water resources management system to accommodate snow making operations including stream flow studies and NYS DEC permitting; comprehensive site design, engineering, environmental analysis and permitting for townhouse community adjacent to ski area.

**SUNMOUNT SECURE UNIT FOR INTENSIVE TREATMENT** Altamont, NY - Preparation of comprehensive environmental impact statement for new construction of five buildings and recreational facilities at state-owned facility on a 37-acre site. Scope included resource inventory and analysis, determination of impacts, design of mitigation measures, coordination with APA, regulatory approvals, and wetland delineation.

**CRYSTAL POND** Windham, NY - Site analysis, planning, design and environmental permitting for phased development of ski community including infrastructure, recreation amenities and landscape plan.

**THE WOODLANDS** Jay, NY - Site analysis, master planning, design, engineering, environmental assessment, regulatory compliance and permitting for recreational resort community on 4,200-acre site in the Adirondack Park including natural resource and biological inventories, design of mitigation for environmental impacts.



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**KEVIN J. FRANKE**

Turf and Integrated Pest Management Specialist

**Education**

MS	Biology/Aquatic Ecology	1988	SUNY College at Fredonia
BS	Environmental & Forest Biology	1986	SUNY College of Environmental Science and Forestry, Syracuse University

**Professional Development/Memberships**

Certified in Wetlands Delineation, Cook College of Rutgers University 1991  
Turfgrass Management, Cornell University 1990  
The American Fisheries Society  
National Association of Underwater Instructors

**Qualifications and Experience**

Kevin Franke is responsible for the identification, inventory and characterization of plant and wildlife species and their habitats. He also confirms the presence or absence of rare and endangered species, and develops critical habitat protection plans. A turf management specialist, Mr. Franke is an expert in the use of LEACHM and CREAMS, sophisticated computer modeling programs for chemical applications such as herbicides and pesticides. He has written several integrated pest management programs for a variety of climate types. He also is responsible for assessing the effects of hazardous and toxic materials on aquatic habitats, and performs water quality and macrophyte sampling analysis and program development. In addition, Mr. Franke is certified by Rutgers University in the United Federal Method of Wetlands Delineation. His relevant project experience includes:

EIS REVIEW OF PURCHASE GOLF COURSE COMMUNITY Purchase, NY - Comprehensive SEQRA review of draft and final EIS, wetlands delineation, site plan, course layout and special studies for proposed Jack Nicklaus-designed golf course and residential subdivision. As a result of The LA Group's review, the project was redesigned and subsequently approved.

MINISCEONGO COUNTRY CLUB Ramapo, NY - Site analysis, planning, design, irrigation engineering, wetland delineation, utility coordination, construction documents, cost estimating, environmental impact statement preparation for 200-acre site including integrated pest management program and wetland mitigation design.

KINDERHOOK COUNTRY CLUB Kinderhook, NY - Site feasibility analysis, master planning, design, engineering, environmental impact analysis, and regulatory compliance and permitting for golf-oriented community on 530-acre site. Project includes 225 units of townhouses and single family housing, and 18-hole championship golf course.

SAGAMORE RESORT, Bolton Landing, NY - Site analyses, land use master planning, design, engineering, cost estimating, construction observation, environmental analysis and regulatory permitting for 275-acre development including biological inventories, wetland delineation and regulatory permitting.

YADDO LAKES Saratoga Springs, NY - Existing conditions analysis, inventory of aquatic vegetation, determination of extent and effect of sediment deposition, and development of remediation plan alternatives to mitigate physical, chemical and aesthetic degradation of three small lakes due to stormwater runoff from abutting property.

TUXEDO FIELDS Tuxedo, NY - Environmental analysis and site engineering for 260-unit, single-family development on 500 acres including 18-hole championship Rees Jones golf course and 200 acres of open space. Scope included development of mitigation measures for wetlands, vegetation, wildlife, water resources, wastewater and stormwater treatment and traffic; design of site layout, stormwater management system with detention ponds, on-site sewage treatment plant and collection system.

STATE FARM PLACE, Malta, NY - Open land master planning, environmental analysis, facility site design, infrastructure and irrigation engineering, cost estimating, integrated pest management program, construction observation for 195-acre site including biological inventories, wetland delineation and regulatory permitting.

LAKE PLACID RESORT Lake Placid, NY - Comprehensive environmental analysis and assessment for redevelopment of historic Adirondack resort on 900-acre parcel including biological inventories, visual impact analysis, wetlands identification, APA application preparation, and turf management and integrated pest management programs for historic (Donald Ross) championship golf course.



**the LA group**  
Landscape Architecture  
and Engineering, P.C.

**HOLLY E. ELMER, CPG**  
Associate

**Education**

BA Geology 1980 SUNY Geneseo

**Qualifications and Experience**

Ms. Elmer has over 15 years of experience conducting subsurface investigations for a wide variety of project types including large-scale, recreation-oriented development. Her responsibilities include literature survey of subsurface information; subsurface investigations using backhoe, hand auger or drill rig; analysis of samples; integrated mapping of literature survey and field data; technical report writing; subsequent site design and engineering based on investigative process. She also has served as project manager for EIS and master plan preparation. Ms. Elmer's relevant project experience includes:

**GORE MOUNTAIN UMP (1995 & 2000)** North Creek, NY - Comprehensive facilities inventory and analysis and preparation of unit management master plan for ski area including environmental analysis, APA permit application, environmental impact statement, site design and engineering for parking, site circulation, and snowmaking operations.

**LAKE PLACID RESORT** Lake Placid, NY - Comprehensive environmental analysis and assessment for redevelopment of historic Adirondack resort on 900-acre parcel including biological inventories, visual impact analysis, wetlands identification APA application preparation, and turf management and integrated pest management programs.

**SAGAMORE RESORT MASTER PLAN** Lake George, NY - Site master planning, design, engineering, environmental analysis and regulatory permitting for historic Adirondack resort including analysis of existing conditions, natural resources, infrastructure and demographic data. Subsurface investigations involved well monitoring of water quality.

**VILLAGE OF KEESEVILLE WATER SYSTEM FEASIBILITY ANALYSIS**, Keeseville, NY - Comprehensive water system analysis and recommendations for filtration system and other engineering improvements to comply with regulatory requirements. Scope included identification of potential groundwater sources and evaluation of their development potential as municipal water system.

**HUNTER MOUNTAIN** Hunter, NY - Civil engineering design for water resources management system to accommodate snow making operations including stream flow studies and NYS DEC permitting; comprehensive site design, engineering, environmental analysis and permitting for townhouse community adjacent to ski area.

**TOWN OF ESSEX WATER SYSTEM FEASIBILITY ANALYSIS**, Essex, NY - Comprehensive surface water system analysis and recommendations for engineering improvements to meet regulatory requirements including filtration system, evaluation of potential ground water sources using test wells and preliminary engineering design.

**SARANAC COGENERATION FACILITIES** Plattsburgh, NY - Environmental studies, EIS preparation, ROW management design and construction administration for cogeneration facilities, substations and transmission line including resource inventories, wetland delineation, mitigation and construction administration.

**CELLULAR ANTENNA SITE IMPROVEMENTS** Eight towns in the Adirondacks, NY  
Visual analysis, zoning analysis and APA permitting for improvements to eight cellular antenna locations. Scope included master plan for facility development, coordination with APA for completeness review and with municipalities for local approvals. lakefront site including on-site waste disposal system. Project involved supervision

**LAGOON MANOR**, Bolton, NY - Site planning, design and engineering for Adirondack of well installation and well monitoring.



**ROGER J. CASE, PCSS**  
Soils Scientist

**Education**

BS Agronomy/Ecology 1967 Cornell University

**Qualifications and Experience**

Mr. Case has over 25 years of experience in soils investigation, identification, analysis, classification and mapping. He spent 12 years with the USDA Soil Conservation Service as a soil survey party leader, and with county and regional agencies in New York State as a soil scientist. Mr. Case has worked extensively in New York State, having completed several high intensity soil surveys including an acid rain study in the Adirondack Park. He is certified as a professional soil scientist and soil classifier by the American Society of Agronomy. Mr. Case's relevant project experience includes:

MINISCEONGO COUNTRY CLUB Ramapo, NY - Site analysis, open land planning, design, irrigation engineering, utility coordination, construction documents, cost estimating, environmental impact statement preparation for golf course on 200-acre site including integrated pest management program and environmentally sensitive design.

LONG LAKE Ancram, NY - Comprehensive environmental analyses, natural factors inventory and analysis and site design and engineering for 220-acre open land site including mitigation design for new deciduous wetland with rehabilitation plan for wildlife and vegetative species.

LAKE PLACID RESORT Lake Placid, NY - Comprehensive environmental analysis and assessment for redevelopment of historic resort on 900-acre parcel including biological inventories, visual impact analysis, wetlands identification, APA application preparation, and turf management and integrated pest management programs.

SAGAMORE RESORT, Bolton Landing, NY - Environmental inventories and analyses, master planning and site design for rehabilitation of historic resort hotel on 60-acre waterfront site, rehabilitation of historic golf course, and design of new luxury housing. Scope included environmental analyses and permitting, complete landscape design for all historic and contemporary site layouts, site engineering, and construction administration.

SARANAC COGENERATION FACILITIES Plattsburgh, NY - Environmental studies, EIS preparation, ROW management design and construction administration for cogeneration facilities, substations and transmission line including resource inventories, wetland delineation, mitigation and construction administration.

ESOPUS LAKE COMMUNITY Esopus Lake, NY - Resource inventories, environmental assessments, and permitting for proposed resort development on 360-acre site including soils analysis, identification and classification.

NEW YORK BOTANICAL GARDEN BRONX, NY - Preliminary soils identification, identification and mapping as part of natural resource inventory while employed by Soil Conservation Service.

THE ORCHARDS AT CORNELL UNIVERSITY Ithaca, NY - Comprehensive open land analysis and evaluation, and preparation of generic environmental impact statement for 30-year development program of 600-acre site including wetlands delineation, utility/infrastructure systems, water resources, soils and geology, pedestrian and vehicular circulation.

WOODSTOCK 1994 FESTIVAL Saugerties, NY - Comprehensive environmental analysis, site planning, design and engineering for outdoor festival including site circulation, stormwater management, wastewater treatment, infrastructure connections, wetland delineation, regulatory permitting and site restoration plan.



**RICHARD P. FUTYMA, Ph.D.**  
Biological Habitat Specialist

#### **Education**

Ph.D	Botany	1982	University of Michigan
MS	Botany	1977	University of Michigan
BS	Biology	1975	State University of New York at Buffalo

#### **Qualifications and Experience**

Dr. Futyma has over 15 years of experience in the identification, inventory, and analysis of plant and animal life for a variety of project types. He also contributes to the preparation of environmental impact statements, including identification of impacts on existing and migratory habitat species of proposed developments. Dr. Futyma has authored several technical articles published in professional journals on plant and animal life and on wetland identification and development. Dr. Futyma is certified by Rutgers University in the methodology of delineating wetlands using NEPA and US Army Corps of Engineers standards. He is particularly expert in identifying and assessing both forest and wetland habitats. Dr. Futyma's relevant project experience includes:

**GORE MOUNTAIN UMP** (1995) North Creek, NY - Comprehensive facilities inventory and analysis and preparation of unit management master plan for ski area including environmental analysis, APA permit application, environmental impact statement, site design and engineering for parking, site circulation, and snowmaking operations.

**LAKE PLACID RESORT** Lake Placid, NY - Comprehensive environmental analysis and assessment for redevelopment of historic resort on 900-acre parcel including biological inventories, visual impact analysis, wetlands identification, APA application preparation, and turf management and integrated pest management programs.

**SAGAMORE RESORT**, Bolton Landing, NY - Environmental inventories and analyses, master planning and site design for rehabilitation of historic resort hotel on 60-acre waterfront site, rehabilitation of historic golf course, and design of new luxury housing. Scope included environmental analyses and permitting, complete landscape design for all historic and contemporary site layouts, site engineering, and construction administration.

**SARANAC COGENERATION FACILITIES** Plattsburgh, NY - Environmental studies, EIS preparation, ROW management design and construction administration for cogeneration facilities, substations and transmission line including resource inventories, wetland delineation, mitigation and construction administration.

**LAKESIDE FOREST** Forestburgh, NY - Comprehensive environmental analyses and impact statement preparation for development of 810-acre open land forest site including identification of winter habitat for bald eagle and mitigation design of buffer zones to maintain habitat undisturbed.

**LONG LAKE** Ancram, NY - Comprehensive environmental analyses, natural factors inventory and analysis, and site design and engineering for 220-acre open land site including mitigation design for new deciduous wetland with rehabilitation plan for wildlife and vegetative species.

**ROGER'S ISLAND CULTURAL PARK** Fort Edward, NY - Comprehensive site analysis, master planning, environmental analyses, EIS preparation, site engineering, landscape design, regulatory permitting for waterfront recreational development including administrative center, marina, maintenance and other support structures, grading and drainage, roadways, parking, pedestrian pathways.

**THE WOODLANDS** Jay, NY - Site analysis, master planning, design, engineering, environmental assessment, regulatory compliance and permitting for recreational resort community on 4,200-acre site in the Adirondack Park including natural resource and biological inventories, design of mitigation for environmental impacts.



**TRACEY M. CLOTHIER, AICP**  
Senior Planner

**Education**

MS	(Candidate) Urban & Regional Planning	2000	State University at Albany
BS	Environmental Studies	1983	Empire State College

**Qualifications and Experience**

Ms. Clothier has over 18 years of experience as a resource and land use planner. Prior to joining our firm, she was President of Environmental Research Associates, a consulting business specializing in watershed planning and management issues. A former Environmental Analyst with The LA Group from 1988-1995, Clothier was responsible for the preparation of environmental assessments, environmental impact statements, permit applications, land use surveys, community master plans, recreational studies, and water quality assessments. Clothier is experienced in grant application and administration, having successfully obtained numerous planning grants from a variety of funding sources. She currently serves on the Warren & Washington County Water Quality Strategy Committee and has served as Chairman of the Warren County Planning Board, as a member of the Lake George Planning Board, and as the former executive director of the New York Federation of Lake Association. Her relevant experience includes:

COMPREHENSIVE PLAN TOWN OF MOREAU Moreau, NY – Development of a comprehensive master plan and zoning ordinance update including public participation, and SEQR compliance.

COMPREHENSIVE MASTER PLAN AND ZONING ORDINANCE UPDATE Saratoga, NY – Development of a comprehensive master plan and zoning ordinance update including public participation, SEQR compliance, and economic development with an emphasis on maintaining quality of life.

VILLAGE OF DOBBS FERRY LOCAL WATERFRONT REVITALIZATION PLAN (LWRP) Dobbs Ferry, NY - Development of a LWRP to serve as a guide for the beneficial use, revitalization and protection of waterfront resources while enhancing Dobbs Ferry's identity as a waterfront community.

VILLAGE OF WHITEHALL LOCAL WATERFRONT REVITALIZATION PLAN and CANAL CORRIDOR INITIATIVE IMPROVEMENTS Whitehall, NY - Comprehensive master plan, implementation strategy and preliminary design for a Champlain Canal community. The project includes an extensive public participation program including a series of interviews with stakeholders, public presentation of the draft plan, and close coordination with a steering committee throughout all project phases.

GROWTH DEVELOPMENT TRENDS STUDY, MASTER PLAN AND ZONING UPDATE North Elba, NY - Growth development trends study including analyzing and estimating changes in water, sewer, traffic, demographic, employment, economic, wetlands, historic resource and environmental impacts. Based on study, proposed alternative revisions to town's land use, planning and zoning documents.

GORE MOUNTAIN UMP (1987 & 1995) North Creek, NY - Comprehensive facilities inventory and analysis and preparation of unit management master plan for ski area including environmental analysis, APA permit application, environmental impact statement, site design and engineering for parking, site circulation, and snowmaking operations.

ROGERS ISLAND MASTER PLAN FOR ROGERS ISLAND CULTURAL PARK Fort Edward, NY - Comprehensive master plan, environmental analyses, site design, engineering, and permitting for waterfront park with recreational amenities on 32.5 acres of Rogers Island, a National Historic Landmark.

HAMILTON COUNTY LAND ACQUISITION STUDY Hamilton County, NY - Evaluation of parcels slated for acquisition and identification of community impacts including development of evaluation methodology, resource inventory, analysis of parcels, public meetings, mapping, and policy recommendations.





**JAIME A. ETHIER**  
Planner

**Education**

MS	(Candidate) Environmental Planning	2002	State University at Albany
BS	Natural Resources Management & Policy	2000	Paul Smith's College

**Qualifications and Experience**

Jaime Ethier graduated with honors from Paul Smith's College with a Bachelor of Science in Natural Resources Management and Policy. Prior to taking a position with The LA Group's Environmental Analysis and Planning Department, he worked for the Adirondack Park Agency as a planning/ecology intern and as an intern with the Adirondack Council Legislature. Mr. Ethier will be responsible for both environmental impact assessments and sustainable land use planning. His project work includes:

VILLAGE OF LIBERTY, NY COMMERCIAL DISTRICT REVITALIZATION - Development of a downtown revitalization plan.

VILLAGE OF WALTON COMPREHENSIVE PLAN Walton, NY – Comprehensive Master Plan update as it relates to the area's infrastructure (roads, water, sewer), recreation, housing, downtown revitalization, industrial parks, etc. An extensive public participation program is a component of the project, as well as encouragement of businesses to relocate to the Village.

ADIRONDACK PARK AGENCY TOWER GUIDELINES – Recommendations and guideline development to help the Adirondack Park Agency with cell tower placement and regulations.

VILLAGE OF DOBBS FERRY LOCAL WATERFRONT REVITALIZATION PLAN (LWRP) Dobbs Ferry, NY - Development of a LWRP to serve as a guide for the beneficial use, revitalization and protection of waterfront resources while enhancing Dobbs Ferry's identity as a waterfront community.

TOWN OF UNION VALE COMPREHENSIVE MASTER PLAN Union Vale, NY - Comprehensive master plan development with the emphasis placed on fiscal modeling and socio-economic analysis. Scope of services included inventory and analysis, public participation, geographic information systems mapping, options analysis and recommendations.

VILLAGE OF CORINTH COMPREHENSIVE LAND USE PLAN and ZONING ORDINANCE UPDATE Corinth, NY - Development of a new comprehensive land use plan for a rural Adirondack community. Primary considerations for plan development include downtown and waterfront revitalization to generate revenue and potentially bolster tourism in the area. The plan is being developed in consideration for the Village's first zoning ordinance.

BELLEAYRE FOUR-SEASON RESORT Ulster County, New York - Environmental planning services and local, state and federal permits for a four-season resort on 2,300 acres of land adjacent to an existing ski center. The resort includes two hotels, a variety of housing types, two golf courses, an alpine village with a commercial retail center and other forms of recreation including golf school, theater/performing arts, tennis, trails, and swimming.

\*ADIRONDACK PARK AGENCY – Responsible for scaling tax map parcels onto topographic and land use maps, preparation of property histories for project review; review of projects for jurisdictional determination; and a member of the telecommunications towers planning team.

\*ADIRONDACK COUNCIL LEGISLATURE – Responsible for the monitoring of legislative activity for issues of concern and provided assistance to lobbyists with daily activities.

\*Previous experience.



**RICHARD E. WEBER III, ASLA**  
Director of GIS

**Education**

MLA	Landscape Planning	1983	University of Michigan
BLA	Landscape Architecture	1977	SUNY College of Environmental Science & Forestry at Syracuse University
	Forestry	1972-74	Paul Smith's College

**Registration**

Landscape Architecture                      New York

**Qualifications and Experience**

Mr. Weber has 20 years of experience in all aspects of site analysis, planning and design. He specializes in the assessment of natural resources and their conservation, use and enhancement for projects in both the public and private sector. Mr. Weber's work with the National Park Service of the Republic of Panama involved strategic planning for the national system of parks and other protected areas, policy analysis and implementation, staff training and grants writing. Mr. Weber has used remote sensing and GIS to support his project work for over 10 years. His relevant project experience includes:

COMPREHENSIVE MASTER PLAN AND ZONING ORDINANCE UPDATE Saratoga, NY – Development of a comprehensive master plan and zoning ordinance update including public participation, SEQR compliance, and economic development with an emphasis on maintaining quality of life.

COMPREHENSIVE PLAN TOWN OF MOREAU Moreau, NY – Development of a comprehensive master plan and zoning ordinance update including public participation, and SEQR compliance.

SARATOGA COUNTY REAL PROPERTY TAX MAPPING Saratoga County, NY -Digital conversion of county tax maps and creation of a tax parcel GIS data layer including georeferencing of the scanned tax map images, creation of a master tic registration file, vectorization of the scanned tax map images, and conversion to AutoCAD drawing entities.

WASHINGTON COUNTY AGRICULTURAL PRESERVATION AND DEVELOPMENT PLAN Washington County, NY - Preparation of an agricultural preservation and development plan including public participation program with surveys, focus groups and interviews with agricultural leaders; GIS mapping of farms, soils and farm support services; analysis of farmland development costs and economic value of agriculture to the county; and recommendations for marketing, economic development, land-use and protection strategies. GIS databases included a digital base map, soils of agricultural importance, significant habitats, farm locations, and groundwater resources.

RECREATIONAL RESOURCE INVENTORY Northern Forest Lands, NY - Comprehensive inventory and assessment of existing recreational resources for 13 counties in northern New York State including hiking and cross-country ski trails, bicycle routes, camping areas, picnic areas and water-related facilities, GIS mapping, and recommendations for facility development.

ROUTE 28 CORRIDOR STUDY Shandaken and Middletown, NY - Environmental impact analysis and GIS mapping for a design, development, feasibility and marketing study for the central Catskill region. GIS scope included creation of a digital tax parcel base map with multiple coverages and preparation of a generic environmental impact statement

TOWN OF MASSENA MASTER PLAN UPDATE, Massena, NY - Comprehensive Master Plan update, including resource assessment Scope includes public participation program, facilities inventory, issue identification, economic analysis, user survey, plan development, and GIS mapping.

LAKE PLACID/NORTH ELBA REGIONAL TRANSPORTATION IMPROVEMENT PLAN - Economic impact, inventory and analysis of resources, definition of policies and programs, and development of implementation strategies.



**GREGORY S. FOWLER, PE**  
Director of Engineering

**Education**

BS Civil Engineering 1970 California State Polytechnic University

**Registration**

Professional Engineer New York

**Qualifications and Experience**

Mr. Fowler has over 25 years of experience as a civil engineer, specializing in utility systems design. As manager of three water districts in Ventura County, CA, Mr. Fowler was responsible for the engineering, administration, operation and maintenance of each system. He reviewed and approved all construction plans for improvements, expansion or interconnections to the systems to ensure compliance with long-range plans and with all county and state standards. He also has conducted hydraulic analyses, developing and performing field test flows, and water audits for system planning and compliance purposes. As the municipal engineer for the City of Saratoga Springs, Mr. Fowler gained extensive experience with a broad range of infrastructure system engineering including system extensions, retrofit or replacement of existing system components, emergency system breaks, and construction observation and review. Mr. Fowler's relevant experience includes:

GORE MOUNTAIN MASTER PLAN North Creek, NY - Comprehensive master plan for improvements to state facility including new snow-making equipment and securing required regulatory permits.

VA NATIONAL CEMETERY SITE ENGINEERING Saratoga, NY - Site engineering for 226-acre cemetery site including stormwater management, on-site water, irrigation and sewage disposal systems.

SARATOGA PERFORMING ARTS CENTER ENGINEERING IMPROVEMENTS Saratoga Springs, NY - Site analysis, planning and design for site upgrades and improvements including water service and connections to the municipal sewer system.

VILLAGE OF KEESVILLE, NY SEWER SYSTEM IMPROVEMENTS - Evaluation of the sewer system including recommendations for upgrades or replacement to comply with SPDES permit requirements.

VILLAGE OF KEESVILLE, NY WATER FILTRATION SYSTEM TESTING - Design and administration of slow sand filtration system pilot study, based on results of water system analysis.

VILLAGE OF CONSTABLEVILLE WATER SYSTEM IMPROVEMENTS Constableville, NY - Engineering design and construction services for slow sand filter system, water storage tank and pipe replacement.

MUNICIPAL WATER SYSTEM EXTENSION Saratoga Springs, NY - Engineering design of water system extension including piping, valves, fire hydrants and appurtenances.

MUNICIPAL WATER LINE REPLACEMENTS Saratoga Springs, NY - Detailed review and construction inspection of three major infrastructure replacement projects.

CHURCH STREET RECONSTRUCTION Saratoga Springs, NY - Reconstruction of major city artery including replacement of water, sanitary and storm sewer lines.

MUNICIPAL INFRASTRUCTURE IMPROVEMENTS Mechanicville, NY - Engineering design and construction for infrastructure improvements including water system, separation of storm drainage and sanitary sewers, pavement and drainage.

MUNICIPAL WASTEWATER SYSTEM IMPROVEMENTS, Clayton, NY - Construction management for system improvements including contact stabilization tank, upgrade of pumping stations, and construction of sanitary sewer.

SARATOGA COUNTY SEWER DISTRICT DESIGN REVIEW Saratoga County, NY - Continuing services contract to provide engineering review and construction inspection services for all new building within the county sewer district.



**DAVID W. MAGURK, P.E., L.S.**  
Project Manager

**Education**

BS Civil Engineering 1965 University of Missouri at Rolla

**Registration**

Professional Engineer and Land Surveyor New York, Vermont, Washington and Idaho

**Professional Affiliations**

- American Society of Civil Engineers
- American Water Works Association
- Water Environment Federation

**Qualifications and Experience**

Mr. Magurk's over 31 years of experience includes project management for design, construction and administration of federally-funded municipal projects working with agencies such as the Department of Housing and Urban Development and the Economic Development Administration. He is the former chief engineer at the Olympic Regional Development Authority where he was responsible for overseeing all construction projects, environmental issues, the Authority's compliance with fire and safety codes and long-range capital planning for all of the Authority's operating venues. Magurk has developed reports, plans and specifications and control administration for general municipal engineering projects, including water works, sewage works, site planning, drainage and street design. He has also developed reports, surveys, plans and specifications and contract administration for residential subdivisions, condominium and townhouse projects including site planning, street design, water and sanitary facilities, drainage and park development. Relevant experience includes:

VILLAGE OF BURKE, NY – 200,000 gallon steel water storage tank, ground water supply source and distribution system.\*

ST. LAWRENCE COUNTY, TOWN OF ROSSI, NY – County bridge replacement over Indian River with two (2) arch plat culvert structures.\*

VILLAGE OF MORRISTOWN, NY – Design of vacuum sewage collection system consisting of 27,230 l.f. vacuum collection piping, vacuum pumping station and 1,900 l.f. of forcemain and a 0.06 mgd intermittent sand filter wastewater treatment facility.\*

OLYMPIC SKI JUMP COMPLEX SEWER LINE Lake Placid, NY – 6,700 foot sanitary sewer line extension, including two sewage lift stations, for the Town of North Elba Park District to furnish sanitary sewer services to the Olympic Ski Jump Complex in Lake Placid, NY.\*

OLYMPIC SKI JUMP COMPLEX SKI JUMP HILLS Lake Placid, NY – Project manager/engineer for major renovations to the 90K and 120K ski jump landings at the Olympic Ski Jump in Lake Placid, NY. Profiles of both landing hills were redesigned to meet new International standards. A six-inch concrete base and new plastic landing mats were installed on the 90K hill to stabilize and improve the summer jumping program.\*

ROCKY POINT RESORT Inlet, NY – 76-unit townhouse development including community wastewater collection, treatment and water distribution/storage facilities.\*

VILLAGE OF GOUVERNEUR, NY – Prestressed, 1.5-million-gallon concrete water storage tank facility and 10-inch water transmission main replacement. Wastewater treatment plant and wastewater collection system. Project included wastewater treatment facility, wastewater collection, pumping facilities, stormwater collection systems, river crossing, highway borings, triple-barrel siphon system, and road renovations/restorations.\*

TOWN OF SCHUYLER FALLS, NY – 187,000-gallon steel water storage tank, 8-inch well, control building and water distribution.\*

\*Project experience gained during prior employment.



**KEVIN L. HASTINGS, PE**  
Project Engineer

**Education**

BS	Civil Engineering	1996	Rensselaer Polytechnic Institute
AS	Engineering Science	1993	Adirondack Community College
AAS	Drafting & Mechanical Technology	1984	Adirondack Community College

**Registration**

Professional Engineer	1999
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**Qualifications and Experience**

Mr. Hastings has over 14 years of project management experience. As a project manager at The LA Group, he is responsible for a full range of site engineering design services including grading, drainage, utilities, parking lots, streets and roadways, stormwater management, sewage and wastewater collection, treatment and disposal, as well as production of construction documents and cost estimating. Prior to his employment with The LA Group, Hastings provided contractual civil engineering design, project management and specification writing at Morse Engineering. His relevant project experience includes:

\*ORDA GORE MOUNTAIN WATER PIPELINE North Creek, NY Construction phase layout of snowmaking pipeline from Hudson River intake structure to reservoir storage pond including traverse stakeout, angle point links control and elevated bridge realignment.

\*ORDA GORE MOUNTAIN WASTEWATER TREATMENT PLAN UPGRADES North Creek, NY - Engineering design to upgrades and modifications to wastewater treatment plant at Base Lodge including SBR, oxidation ditch, effluent lift station, sludge holding tank and related electrical power.

AVIATION MALL Queensbury, NY - Civil engineering conceptual alternative designs for expansion of an existing retail/commercial mall.

VA NATIONAL CEMETERY Saratoga, NY - Site analysis, master planning, design and engineering using the metric system for 226-acre national cemetery and visitor attraction site including site design, engineering, landscape plan, turf maintenance program development and manual preparation, stormwater management, on-site water and irrigation system, and on-site sewage disposal system.

MASTER PLAN AND PHASE I DEVELOPMENT FOR COMMONWEALTH OF MASSACHUSETTS STATE VETERANS' CEMETERY Agawam, MA - Site analysis, master planning, design, environmental compliance, engineering, environmental permitting, construction documents, cost estimating and construction observation for new State Veterans' cemetery on a 61-acre site.

\*MARY MCCLELLAN HEALTH CARE FACILITY Hoosick Falls, NY - Capital improvement program. Scope of work involved site analysis, drainage design and engineering for combined outpatient facility including site design, engineering, construction documents, cost estimating and periodic construction observation.

\*TICONDEROGA CENTRAL SCHOOL IMPROVEMENTS Ticonderoga, NY - Capital improvements of parking facilities including site analysis, design and engineering, stormwater management, construction documents, cost estimating and periodic construction observation.

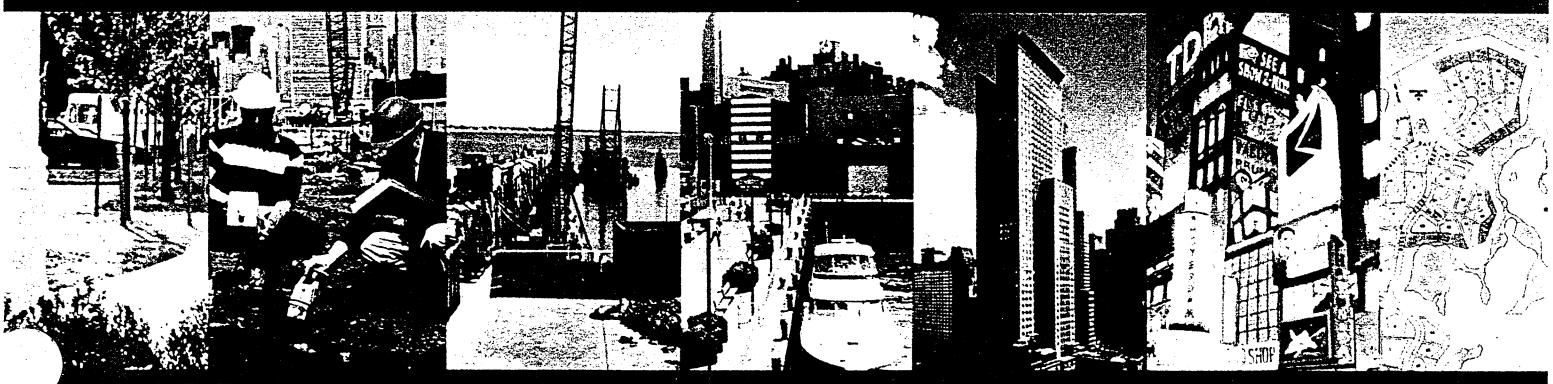
\*CRIPPEN-FELLOWS WATER SUPPLY PERMIT Castleton, VT Evaluation of the potable water system including engineering design of upgrades and improvements, and permit application for compliance with Vermont Agency of Natural Resources requirements.

\*CAMP BUCKNERY West Point, NY Engineering design of upgrades and modifications to sanitary sewage treatment plant including elevated wastewater sewage holding tank, effluent lift station and aeration blowers.

\*WOMEN'S CARE MEDICAL FACILITY, WILTON, NY - Engineering design and specifications of electrical power, lighting and plumbing.

\*Previous Experience

Allee King Rosen & Fleming, Inc. AKRF, Inc.



ENVIRONMENTAL AND PLANNING SERVICES



FIRM PRINCIPALS  
(FROM LEFT TO RIGHT):  
PETER LIEBOWITZ,  
ARNOLD FLEMING,  
MIKE LEE, ANNE LOCKE,  
ROBERT CONWAY,  
STEPHEN ROSEN,  
PHILIP SEARS, DEBRA ALLEE,  
ANDREW RUDKO,  
EDWARD APPLEBOME,  
CHRISTOPHER KOPLEY

**A**T ALLEE KING ROSEN & FLEMING, INC. AND AKRF, INC., WE ARE COMMITTED TO HELPING IMPLEMENT ENVIRONMENTAL POLICIES, USING OUR SKILLS TO INTEGRATE THESE CONSIDERATIONS INTO PROJECT PLANNING AND DESIGN. OUR CLIENTS — WHETHER THEY ARE PUBLIC AGENCIES, PRIVATE SPONSORS, OR COMMUNITY GROUPS — CAN RELY ON US FOR A FAIR, THOROUGH, AND EVEN-HANDED REVIEW OF ALL ISSUES. WE GUIDE OUR CLIENTS' PROPOSALS THROUGH ENVIRONMENTAL AND OTHER REGULATORY REVIEWS TO TIMELY IMPLEMENTATION. OUR PRACTICAL, PROBLEM-SOLVING APPROACH HELPS GET PROJECTS BUILT.



QUEENS WEST

ENVIRONMENTAL CONSIDERATIONS DO NOT HAVE TO BE AT ODDS WITH DEVELOPMENT, AND PROGRESS DOES NOT HAVE TO BE AT THE EXPENSE OF THE ENVIRONMENT.

### COMPLETE RANGE OF ENVIRONMENTAL AND PLANNING SERVICES

ALLEE KING AND AKRF'S EXCELLENT PERFORMANCE ON MORE THAN 1,400 PROJECTS (SINCE OUR FOUNDING IN 1981) HAS EARNED US THE CONFIDENCE AND RESPECT OF REGULATORY AGENCIES, PROJECT SPONSORS, AND THE PUBLIC.

ALLEE KING IS ONE OF THE NEW YORK METROPOLITAN AREA'S LEADING ENVIRONMENTAL AND PLANNING FIRMS. OUR FULL RANGE OF SERVICES INCLUDES LAND USE PLANNING, ECONOMIC AND MARKET STUDIES, AIR QUALITY AND NOISE ANALYSES, CULTURAL RESOURCES SURVEYS AND ASSESSMENTS, AND TRAFFIC AND TRANSPORTATION STUDIES AS WELL AS COMPREHENSIVE ENVIRONMENTAL IMPACT ASSESSMENTS.

AKRF OFFERS HAZARDOUS MATERIALS ANALYSES, REMEDIATION STUDIES, AND ASBESTOS TESTING AND ABATEMENT PROGRAMS. AKRF CAN PROVIDE ALL THE SERVICES NEEDED TO IDENTIFY, ASSESS, AND REMEDIATE PROBLEMS RELATED TO HAZARDOUS MATERIALS, FROM PHASE I ENVIRONMENTAL AUDITS TO THE DESIGN AND MANAGEMENT OF REMEDIATION PROGRAMS.

## Skills and Resources to Respond to Client Needs

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**O**ur success is based on the skills and intelligence of our multidisciplinary staff. We create an atmosphere that fosters excellence, professional growth, and sensitivity to client needs. With our hands-on working principals — acknowledged leaders in their fields — our strong project managers, and our competent professionals throughout all levels of the firm, we offer a breadth of experience and depth of resources that allow us to respond quickly to the often urgent needs of our clients.

When involved in project development, we are an integral member of the team, applying our planning and technical skills and knowledge of environmental regulations and the permitting process to save our clients time and money. Based on our reputation as problem-solvers, we are often called on to resolve technical bottlenecks in the review process and move projects forward.

## Credibility Based on Knowledge and Experience

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**W**e apply our resources and expertise to all projects. Our success is rooted in:

- ▣ An ability to identify and address the critical issues of a project or a proposed action
- ▣ A thorough knowledge of the intricacies of environmental regulations and permitting requirements
- ▣ Established working relationships with regulatory agencies
- ▣ The confidence of both the regulatory and applicant communities
- ▣ Experience in all levels of planning and environmental analyses
- ▣ The technical abilities needed to resolve tough issues and move projects forward.

## An Outstanding Record of Successful Projects

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**A**llee King has successfully completed assignments that range from full environmental impact analyses for large-scale, complex, and sometimes controversial projects — such as the Route 9A Reconstruction Project, the 42nd Street Development Project, Queens West, and Riverside South — to planning studies, such as the master plan for the Town of Cortlandt, NY. In addition, we have prepared analyses of specific issues, such as the potential health and safety impacts associated with the use of hazardous chemicals, biohazards, and radioactive materials at The Rockefeller University. We have also analyzed a large number of office, residential, institutional, and multiuse buildings; shopping centers; industrial plants; publicly sponsored development projects; and public actions, such as rezoning and other policy changes.



# Unparalleled Experience

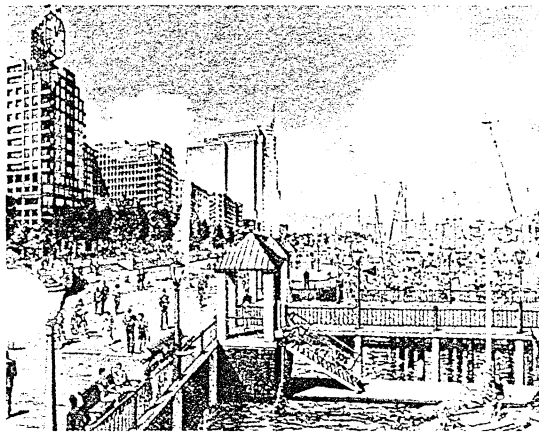
## **PUBLIC/PRIVATE INITIATIVES**

### **42nd Street Development**

EISs, fiscal benefits analysis, traffic and historic assessments, and expert testimony for revitalization of Times Square with entertainment, retail, hotel, and office uses

### **Battery Park City**

EISs, economic studies, and permits for various projects (commodities exchanges, multiplex cinema, school, hotels, etc.) in major waterfront development in Lower Manhattan



COLGATE-PALMOLIVE SITE REDEVELOPMENT

**Bronx Community Paper Company**  
EIS for paper recycling facility in the Harlem River Rail Yard

**NY Coliseum Site Redevelopment**  
EISs and expert testimony for mixed-use complex on Columbus Circle

### **Penn Station Redevelopment Project**

Traffic, parking, and neighborhood character studies for relocating Amtrak train services to historic main post office in Manhattan

### **Gateway Estates**

EIS for large-scale affordable housing and commercial development project in Brooklyn's Fresh Creek Urban Renewal Area near Jamaica Bay

## **WATERFRONT DEVELOPMENT AND PLANNING**

### **Chelsea Piers**

EIS for major urban entertainment and recreation complex on four Hudson River piers in Manhattan

### **Colgate-Palmolive**

EIS, state and federal permits, master planning, and fiscal benefits analysis for redevelopment of former industrial site in Jersey City, NJ

### **Culloden Point**

EIS and subdivision design support for 272-acre residential development in Montauk, Long Island

### **Jakobson Shipyard**

Innovative program for dredging and disposal of contaminated sediment at former coastal vessel construction and repair facility in Oyster Bay, Long Island

### **Queens West**

EIS, permits, hazardous materials analyses, health-safety-remediation plan, and construction supervision for 75-acre mixed-use development in Long Island City, NY

### **Southold, Long Island, Waterfront Plans**

Harbor management and erosion control plans for local waterfront revitalization program for Town of Southold's 160 miles of waterfront

## **MAJOR PUBLIC WORKS PROJECTS**

### **Belt Parkway Bridges**

GEIS for reconstruction and rehabilitation of nine bridges on critical transportation artery in southern Brooklyn

### **Brooklyn Federal Courthouse**

EIS for new court facility involving reuse of historic post office in Downtown Brooklyn

### **Goethals Bridge**

EIS analyses and cultural resources survey for new bridge linking Staten Island and NJ

### **Hudson River Park**

EIS for 5-mile-long public park along the Hudson River waterfront in Manhattan

### **Manhattan East Side Transit Alternatives Study**

Environmental analysis and planning-EIS-Major Investment Study for capital improvements to public transportation

### **New York City Water Quality Projects**

East River Water Quality Study and EISs for Newtown Creek Water Pollution Control Plant Upgrade, Sludge Management Plan, and Paerdegat Bay Retention Basin

### **Route 9A Reconstruction Project**

EIS, final design, construction support, and hazardous materials health-safety-remediation plan for arterial roadway along Manhattan's west side

## **PRIVATE DEVELOPMENT PROJECTS**

### **Carnegie Hall Tower, City Spire, and 712 Fifth Avenue**

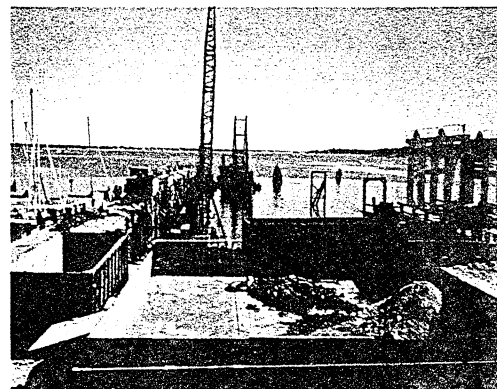
EISs for midtown Manhattan towers involving historic properties

### **Riverside South**

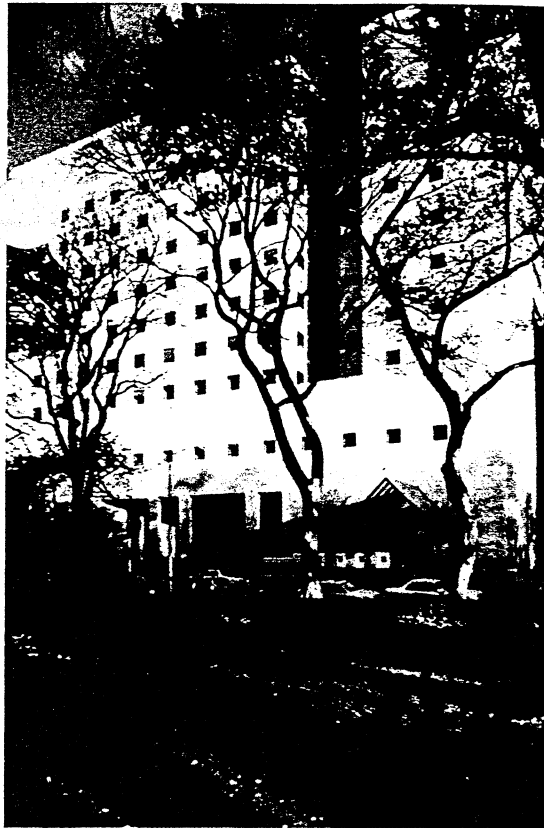
EIS for development of large mixed-use project, including 5,700 dwelling units and a 22-acre park, on a former rail yard in Manhattan

### **Union Square South and Zeckendorf Towers**

EISs for two developments on Union Square in Manhattan



JAKOBSON SHIPYARD



THE MOUNT SINAI MEDICAL CENTER

**R-H Tuxedo Development**  
EIS, detailed economic-fiscal impact studies for mixed-use development with 2,500 residential units in Orange County, NY

#### RETAIL PROJECTS

**Circuit City**  
Retail store feasibility studies — including Phase I and Phase II Site Assessments and zoning and site plan conformance reviews — for sites throughout NY, NJ, and PA

**College Point Corporate Park**  
EIS for retail development — including stores, restaurants, and movie theater — on approximately 40-acre site in Queens, and EIS for Waldbaum's store and training center

**Home Depot**  
EISs and soils-groundwater studies for stores in the Bronx, Mount Pleasant, Port Chester, and New Rochelle, NY, and Norwalk, Waterbury, and Waterford, CT

**Discount Retail in New York City**  
Environmental studies for BJ's in Staten Island and Kmart on Northern Boulevard in Queens

**Price Costco**  
Environmental audit, asbestos survey, soil and groundwater testing, and waterfront regulatory review for retail reuse of Long Island City industrial site

#### ECONOMIC-FINANCIAL FEASIBILITY STUDIES

**American Dream**  
Economic-fiscal analysis for 2.1 million-square-foot urban entertainment center on 27 acres in Silver Spring, MD

**Carlyle Project**  
Fiscal impact study for 7 million-square-foot office/hotel/retail/residential development on former rail yard in Alexandria, VA

**Frankford Redevelopment**  
Retail market assessment for reconstruction of multimodal transportation center in Philadelphia, PA

**Roosevelt Raceway**  
Feasibility study for redevelopment of Long Island harness racetrack

#### CONVENTION CENTERS AND ARENAS

**Convention Centers**  
EISs for NYC Jacob K. Javits Center and Rochester, NY, Riverside Convention Center

**Shea Stadium**  
Environmental studies as part of feasibility assessment for new Mets stadium at Flushing Meadows-Corona Park in Queens, NY

**USTA**  
Planning, EIS, hazardous materials and asbestos abatement, permits, fiscal benefit study, and construction health and safety plan for expansion of Queens tennis facility, home of US Open

#### MEDICAL AND RESEARCH FACILITIES

**Audubon Business and Technology Center**  
EIS for new biomedical research park associated with Columbia University and Columbia-Presbyterian Medical Center

**Beth Israel Medical Center**  
Environmental studies for zoning actions on main campus and for North Division; detailed transportation planning for hospital and outpatient clinic at Union Square in Manhattan

**The Long Island College Hospital**  
EIS for parking garage and environmental assessment and Phase I audit for funding

**The Mount Sinai Medical Center**  
EISs for Guggenheim Pavilion and Medical School building, environmental assessments and site audits for funding approvals, and employee commute options surveys

**Primary Care Development Corporation**  
Environmental services for financing of primary care centers in New York City

**The Rockefeller University Faculty Housing and Biomedical Laboratory Buildings**  
Environmental studies for two buildings on Upper East Side campus



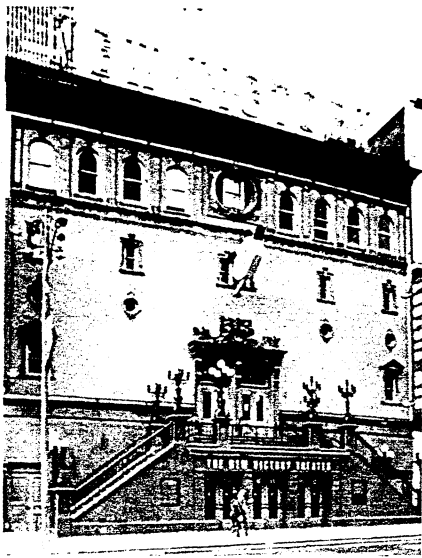
AUDUBON BUSINESS AND TECHNOLOGY CENTER

#### CULTURAL AND EDUCATIONAL INSTITUTIONS

**American Museum of Natural History Planetarium and North Side Project**  
EIS for new planetarium, entrance on Columbus Avenue, parking garage, restaurant, and public terrace

**Columbia University**  
EIS and environmental assessments for new construction on Morning-side Heights campus

**Fordham University**  
Environmental assessment for radio broadcast tower



NEW VICTORY THEATER - 42ND STREET

**NYC Schools**

Environmental reviews for new school construction for School Construction Authority

**New York Philharmonic**

Site selection study and feasibility analysis for orchestra's potential summer home in Westchester County, NY

**PLANNING AND ZONING STUDIES**

**Calverton Naval Station Reuse Plan**

Strategy planning and environmental permit analysis to develop reuse plan for former weapons plant in Long Island's Pine Barrens

**Retail and Industrial Zoning Text Amendments**

Transportation and air quality analyses for expansion of allowable retail uses in New York City manufacturing districts

**Town of Cortlandt**

Master Plan, SEQRA reviews, and litigation support for Westchester County, NY, community

**Village of Mount Kisco**

Site plan, subdivision and SEQRA reviews, and special projects concerning land use, zoning, economic development, and capital improvements for Westchester County, NY, community

**Village of Southampton**

Analysis of development trends and recommendations to shape future growth for eastern Long Island community

**West Haven**

Planning for designation of Urban Renewal Area — including land use, market feasibility, blight, industrial surveys, and environmental assessment — for 57-acre industrial area near Yankee Stadium

**HAZARDOUS MATERIALS**

**American Felt & Filter**

Compliance audit and remediation, pollution prevention plan, and contingency planning for industrial facilities in upstate NY and CT

**Pratt Whitney Machine Tool Site**

Remediation of former industrial facility in West Hartford, CT, including removal of 42,000 tons of contaminated soil and installation of groundwater recovery trench

**The New York Times**

Hazardous waste analysis and traffic studies for site selection, environmental approvals, and permits for Queens printing plant site

**Allied Prince's Bay**

Remedial investigation on Consent Order for residential development on 22-acre former industrial site on Staten Island at Prince's Point for Muss Development Company

**585 Madison Avenue**

Environmental survey for redevelopment, including Phase I audit, asbestos survey and abatement, and lead paint analysis



MOUNT KISCO CENTRE PARK

**SPECIAL STUDIES**

**Carbon Monoxide Attainment Demonstration Studies**

Air quality modeling study for NJ Department of Environmental Protection and Downtown Brooklyn air quality mitigation plan for NYC Department of Transportation

**City Environmental Quality Review Technical Manual**

Research and development of guidelines for conducting environmental reviews in New York City

**Congestion Mitigation Air Quality (CMAQ)**

Air quality analyses of rail freight projects in support of application for Intermodal Surface Transportation Efficiency Act

**Army Reserve Cultural Resources**

Architectural assessment report for 14 Department of Defense installations in NJ

CHELSEA PIERS



Diane Biederman

# Comprehensive Services

- ▣ Strategy Planning
- ▣ Environmental Analyses/Permitting
- ▣ Environmental Impact Statements and Assessments
- ▣ Air Quality Analysis
  - Stationary and Mobile Source Modeling
  - Odor Analysis
  - Pollution Abatement
  - Fugitive Dust
- ▣ Community-Based Analyses
  - Land Use, Zoning, and Community Character
  - Population and Housing
  - Economic and Fiscal Impacts
  - Open Space and Recreational Facilities
  - Community Facilities
- ▣ Cultural Resources
  - Historic Resources Surveys
  - Site Histories
  - National Register Nomination Form Preparation
  - Archaeological Sensitivity
  - Archaeological Research Management
  - Visual Character
  - Urban Design and Visual Context
- ▣ Energy and Conservation Systems Analysis
- ▣ Environmental Geology and Soils\*
- ▣ Hazardous Materials\*
  - Asbestos
  - Environmental Audits (Phase I and Phase II)
  - Remediation Investigations/ Feasibility Studies
  - Site Remediation
  - Industrial Operations Audits
  - Site Histories and Characterizations
  - Soils and Groundwater Sampling and Analysis
  - Air Emissions and Toxic Pollutant Studies
  - Health Risk Assessments
  - Environmental Health and Safety Plans for Construction
  - Monitoring Programs
- ▣ Infrastructure Analysis
  - Water Supply
  - Sewers and Sewage Treatment
  - Sludge Management
  - Solid Waste Disposal
- ▣ Litigation Support
- ▣ Noise Studies
  - Acoustical Analyses
  - Monitoring
  - Modeling
  - Architectural Acoustical Design
  - Abatement
- ▣ Port and Waterfront Recreation Facilities Siting
- ▣ Public Participation Programs
- ▣ Real Estate Market Analyses
- ▣ Stadium, Event, and Convention Center Planning Services
- ▣ Traffic and Transportation Planning and Analysis
  - Traffic and Transit Impact
  - Trip Generation, Modal Split, and Route Assignment
  - Traffic and Transit Mitigation
  - Pedestrian Studies
  - Transportation Surveys
  - Parking Demand Assessment
- ▣ Water Quality
- ▣ Wetlands and Ecosystem Evaluation

\*Through AKRF, Inc.

# Clients

Allee King Rosen & Fleming, Inc. and AKRF, Inc. have provided environmental and planning services for a wide variety of projects in recent years. Below is a representative list of the firms' clients.

- |   |                                       |   |   |                                      |
|---|---------------------------------------|---|---|--------------------------------------|
| American Museum of Natural History            | Grenadier Realty Corp.                | NYC Dept. of General Services                     | Queens West Development Corporation             | Triborough Bridge & Tunnel Authority |
| Battery Park City Authority                   | Hamilton Rabinovitz & Alschuler, Inc. | NYC Dept. of Housing Preservation and Development | The Real Estate Board of New York, Inc.         | The Trump Organization               |
| Beth Israel Medical Center                    | Hazen & Sawyer P.C.                   | NYC Dept. of Sanitation                           | The Related Companies, L.P.                     | United Parcel Service                |
| Bristol-Myers Squibb Company                  | Hellmuth, Obata & Kassabaum, PC       | NYC Dept. of Transportation                       | Republic National Bank of New York              | URS Consultants, Inc.                |
| Camp Dresser & McKee, Inc.                    | Home Depot USA, Inc.                  | NYC Economic Development Corporation              | Rockefeller Center Development Corp.            | U.S. Tennis Association              |
| Capital Cities/ABC                            | Housing Futures Inc.                  | NYC Health and Hospitals Corporation              | The Rockefeller University                      | Viacom Inc.                          |
| Chase Manhattan Bank                          | HRO International Ltd.                | NYC Housing Development Corporation               | Rockrose Development Corp.                      | Village of Mount Kisco, NY           |
| Chelsea Piers Management, Inc.                | Hudson River Park Conservancy         | NYC School Construction Authority                 | Roosevelt Island Operating Corporation          | Vollmer Associates                   |
| Chemical Bank                                 | Kaufman Astoria Studios               | NYC Transit                                       | Rose Associates                                 | Whitney Museum of American Art       |
| Circuit City                                  | Kmart                                 | New York Mets                                     | Royal Bank of Canada                            | Zeckendorf Company, Inc.             |
| City of Mount Vernon, NY                      | Lefrak Organization, Inc.             | New York Philharmonic                             | Scenic Hudson, Inc.                             |                                      |
| City of New Rochelle, NY                      | Lenox Hill Hospital                   | The New York Public Library                       | Solow Management Corporation                    |                                      |
| Colgate-Palmolive Company                     | The Long Island College Hospital      | The New York Times                                | Sony Corporation of America                     |                                      |
| Columbia University                           | Metropolitan Transportation Authority | New York University Medical Center                | Southeastern Pennsylvania Transportation Agency |                                      |
| Consolidated Edison Company of New York, Inc. | Montauk Improvement Company           | The Nightingale-Bamford School                    | Southampton Association                         |                                      |
| Cooper, Robertson Ltd.                        | Montefiore Medical Center             | North General Hospital                            | Stamford Transit District                       |                                      |
| Dormitory Authority of the State of New York  | Moran Towing Company                  | The Oliver Carr Company                           | Starrett Corporation                            |                                      |
| Empire State Development Corporation          | The Mount Sinai Medical Center        | Olympia & York                                    | Stone & Webster Engineering Corporation         |                                      |
| Federal Aviation Administration               | Muss Development Company              | The Port Authority of New York & New Jersey       | Supermarkets General Corporation                |                                      |
| Fordham University                            | National Park Service                 | Price Costco                                      | The Taubman Company                             |                                      |
| Forest City Ratner Companies                  | Natural Resources Defense Council     | Prudential Insurance Company of America           | Tishman Speyer Properties                       |                                      |
| Fox & Fowle Architects                        | NJ Dept. of Environmental Protection  |   | Town of Cortlandt, NY                           |                                      |
| General Electric Company                      | NJ Dept. of Transportation            |   | Town of Easthampton, NY                         |                                      |
| Glenwood Management Corp.                     | NJ Transit                            |   | Town of Hempstead, NY                           |                                      |
| Greeley and Hansen                            | NYC Dept. of City Planning            |   | Town of Mamaroneck, NY                          |                                      |
| GreenPoint Bank                               | NYC Dept. of Environmental Protection |   | Town of Southold, NY                            |                                      |

**Allee  
King  
Rosen &  
Fleming, Inc.**

**AKRF, Inc.**

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OFFICES IN  
WESTCHESTER CO.,  
NY AND  
NORWALK, CT



CARNEGIE HALL TOWER



MOUNT KISCO TOWN HALL



42ND STREET DEVELOPMENT PROJECT

Robert A.M. Stern Architects



BATTERY PARK CITY

Stan Rice, 1996



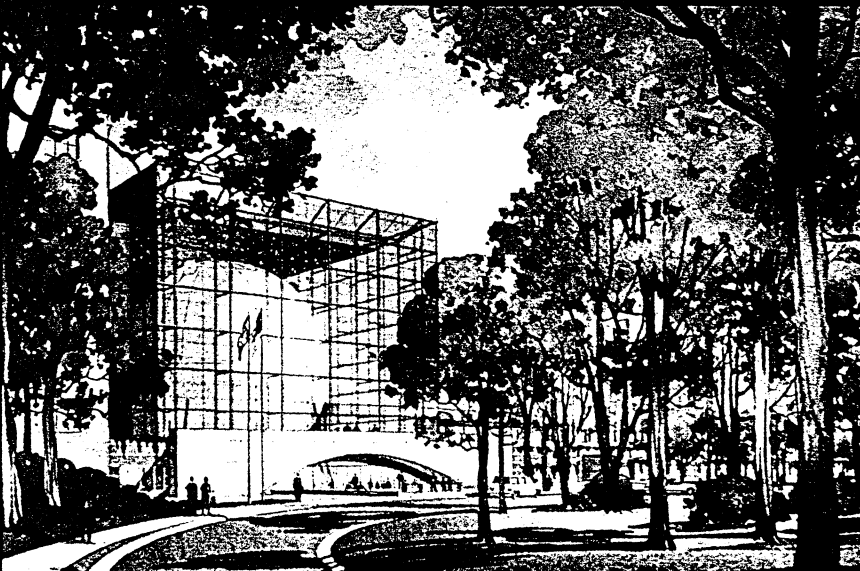
ROUTE 9A RECONSTRUCTION PROJECT

Vollmer Associates



USTA NATIONAL TENNIS CENTER

United States Tennis Association



AMERICAN MUSEUM OF NATURAL HISTORY PLANETARIUM & NORTH SIDE PROJECT

Polshek and Partners Architects LLP



NEWTOWN CREEK WATER POLLUTION CONTROL PLANT

***STATEMENT  
OF  
QUALIFICATIONS***

***ALPHA GEOSCIENCE***

679 Plank Road  
Clifton Park, New York

January 2002

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Phone (518) 348-6995

Fax (518) 348-6966



## ALPHA GEOSCIENCE

**Alpha Geoscience** was founded in 1991 to provide specialized professional consulting services in the areas of geology, hydrology and environmental science. The professionals at Alpha have been working as consultants to industry and government since the mid 1970s. Alpha is committed to providing a full range of services that include project planning, field data collection and analysis, preparation of reports, expert testimony, regulatory negotiation and site remediation. Alpha's philosophy is to provide direct and cost-effective solutions while maintaining economic and environmental benefits.

Alpha provides consulting services to clients throughout the United States. Alpha has conducted subsurface investigations, coordinated remedial activities, provided field oversight, and negotiated work scopes for numerous sites and is experienced in the implementation and administration of state and federal Solid Waste, Spills and Hazardous Waste programs, and maintains a good working relationship with regulatory agency personnel. Alpha also provides expert technical support, opinions and testimony for a variety of mining and industrial clients who are dealing with mineral resource, ground water resource, hazardous waste, and environmental impact issues.

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**Samuel W. Gowan** is the President and a Senior Geologist. Dr. Gowan has twenty years of professional experience including the siting of municipal, hazardous, and industrial waste facilities; and evaluating the geology and hydrogeologic conditions associated with mining operations and contaminated sites. Dr. Gowan provides expert analysis and testimony in the areas of geology, hydrogeology, hydrology and air photographic interpretation for mines, siting studies, property transfers and hazardous waste sites. He is a Certified Professional Geologist with the American Institute of Professional Geologists and is a Registered Geologist in Pennsylvania.

**Thomas M. Johnson** is a Vice President and a Senior Hydrogeologist. Mr. Johnson has twenty two years of experience in the areas of contaminant hydrology, water supply studies, landfill investigations, petroleum remediation, and hazardous and solid waste management and remediation. Mr. Johnson provides strength in the areas of site management, project management, expert representation and regulatory negotiation for investigations and remediation of hazardous waste sites and petroleum contaminated sites. Mr. Johnson's capabilities range from site data collection through data analysis and reporting. He is a Certified Professional Geologist and is a Registered Geologist in Virginia.

**Jean M. Neubeck** is a Senior Hydrogeologist. Ms. Neubeck has eighteen years of professional experience in the areas of designing and implementing site investigations for water supply, solid waste, petroleum spills, and hazardous waste projects; performing assessments for property transactions; preparing Environmental Impact Statements; providing technical oversight of remediation activities for petroleum and hazardous waste contaminated sites; and supervising the removal and closure of underground, petroleum storage tanks. She is a Registered Geologist in Arkansas and Wyoming, and is licensed to perform petroleum work in New Jersey.

**Michael D. Palleschi** is a Senior Hydrogeologist. Mr. Palleschi has fifteen years of experience specializing in the development of ground water resources, and conducting environmental, hazardous waste, hydrologic and remedial investigations. Mr. Palleschi has extensive project management experience and has provided contractor oversight, coordination of technical staff, client liaison, technical guidance and review, QA/QC and interaction with regulatory agencies. He is a Certified Professional Geologist with the American Institute of Professional Geologists and is a Registered Geologist in Pennsylvania.

**Kevin J. Phelan** is a Senior Hydrogeologist. Mr. Phelan has twenty-one years of hydrogeologic, engineering geologic and geophysical experience in investigating sites for siting of critical facilities; evaluating the extent and sources of contaminants at petroleum spills, hazardous waste sites and solid waste sites; and assessments of environmental conditions for litigation and property transfers. Mr. Phelan has managed the repairs and upgrades of secondary containments at several petroleum tank farms; directed the closure of over 50 underground storage tanks, and implemented cost-effective investigations and cleanups at dozens of petroleum spill sites. Mr. Phelan has been called upon to provide expert opinions in litigation involving the sources of petroleum contamination in ground water.

**Steven M. Trader** is a Geologist. Mr. Trader has ten years of experience in coordinating and conducting geologic and hydrogeologic field investigations for water supply studies, waste water treatment plant upgrades, solid waste studies and USTs; evaluating geologic and hydrogeologic conditions associated with mining operations and petroleum spills; directing the removal of dozens of underground storage tanks; and performing environmental assessments for property transactions. Mr. Trader also has extensive experience in air photographic interpretation of contaminated sites.



## *ALPHA GEOSCIENCE PROJECT EXPERIENCE SUMMARY*

### ALPHA GEOSCIENCE'S PROJECT EXPERIENCE INCLUDES:

- ▶ **Water Supply and Water Resource Investigations**
  
- ▶ **Expert Opinions for Mines, Hazardous Waste Sites, Petroleum Contaminated Sites, and Other Environmental Issues**
  
- ▶ **Mining Hydrology, Permitting and EIS Issues**
  
- ▶ **Environmental Assessments for Property Transfers**
  
- ▶ **Solid and Hazardous Waste/Siting Studies**
  
- ▶ **Solid, Hazardous and Industrial Waste Site Investigations and Remediation**
  
- ▶ **Petroleum Investigations, Assessments, and Remediation**
  
- ▶ **Air Photograph Interpretation**

## Water Supply and Water Resource Investigations

Alpha Geoscience provides hydrogeologic services for the exploration, evaluation and development of water supplies for a variety of clients that include industry, municipalities, commercial facilities, and residential developments. Alpha also investigates surface water resources. The following is a summary of Alpha's significant projects:

### Ground Water Supply Investigation

- ▶ Performed an investigation to develop a ground water supply for Mohonk Mountain House resort and convention center located in New Paltz, New York. Performed a fracture trace analysis and geophysical surveys to select several locations for ground water exploration. Performed step rate and constant rate pumping tests to evaluate well performance and long term yield.
- ▶ Conducted a water resource investigation to develop new production wells and replaced existing production wells for IBM. Evaluated bedrock and sand and gravel aquifers, implemented a borehole geophysics survey, reviewed surface geophysics data and supervised exploratory drilling and testing. Designed and supervised the installation of new production wells and replacement production wells.
- ▶ Managed a production well rehabilitation project for IBM facility. Defined a testing program and redevelopment techniques for production wells in unconsolidated and bedrock aquifers, including organic and inorganic acid treatment, shock chlorination, surge and pump procedures and hydrofracturing utilizing a zone packer system. Performed downhole camera surveys and pumping tests to evaluate the effectiveness of the rehabilitation procedures.
- ▶ Conducted a surface geophysical survey and supervised the field investigation program for a water supply study in New York. Analyzed well yield, water quality, and aquifer potential for a proposed 12-home subdivision.
- ▶ Prepared a Water Supply Emergency Plan for the Town of Guilderland, New York.
- ▶ Conducted a pumping test, evaluated the safe well yield, and assessed drawdown effects for water supplies at a proposed nursing home facility, a small warehouse, a residential subdivision and a residential property.
- ▶ Performed a spring evaluation for a commercial spring water supplier. The evaluation included a hydrogeologic review, water balance calculation and on-site monitoring program to evaluate spring source, production and yield variability.
- ▶ Provided geologic and hydrogeologic characterization of a commercial property near Albany, N.Y. including recommendations and oversight of installation of three water supply wells. Pumping rates were recommended based on the aquifer analysis completed by Alpha.

- ▶ Conducted a subsurface water supply investigation for a dairy farm in the Genesee Valley.
- ▶ Providing an assessment of ground water potential, spring discharge rates and stream flow rates for a proposed resort in the Catskills of New York.

#### Surface Water Resource Investigation

- ▶ Alpha is currently evaluating the alleged impacts by an adjacent sand and clay excavation on a surface water reservoir used by the Town of Fort Edward. The excavation was created by an adjacent Golf Course to create a pond for irrigation water.
- ▶ Alpha is monitoring lake water quality (eutrophication trends) in Lake Webb, Maine. This work involves monitoring lake chemistry, lake clarity, algal content, dissolved oxygen, water temperature and climatic data.
- ▶ Alpha also monitors and predicts effects of mining operations and other activities in sensitive surface water bodies such as streams, wetlands and reservoirs. Some of the more significant projects include the Howard Pit for Blades Construction, the Hoosick Quarry for the William E. Dailey Corporation, a sand and gravel mine in the Town of Sardinia for Gernatt Asphalt, Inc., and a proposed rock quarry in Perth, New York for Champion Rock Products.

## **Expert Opinions for Hazardous Waste Sites, Petroleum Contaminated Sites, Mines, and Other Environmental Issues**

Alpha Geoscience is called upon to provide expert opinions and testimony on a variety of hydrogeologic, environmental and geological resource projects. The expert support has been in the general areas of air photograph interpretation, geologic investigations and hydrogeologic investigations. The expert opinions have been provided for issues relating to mines, hazardous waste sites, petroleum contaminated sites, other environmental contamination, and damages to property and natural resources. The following are some of the more significant projects:

### Hazardous Waste

- ▶ Provided site investigation, expert report and technical support in a damages suit between a homeowner and a dry cleaner involving PCE contamination of ground water. A settlement was successfully negotiated based on Alpha's site characterization.
- ▶ Provided expert opinions and prepared trial exhibits for PRP litigation regarding cost recovery at the Renovak Dry Cleaners facility in New Paltz Plaza. The case settled prior to litigation.
- ▶ Provided technical review of hydrogeologic and air photographic data and submitted an expert report for Transport Insurance Company in insurance litigation with the St. Johnsbury Trucking Company. The issues involved the distribution and timing of movement of coal gasification waste in the ground water and surface water from the Pine Street Canal Superfund site in Burlington, Vermont. The case settled following report submission.

### Air Photographic Interpretation

- ▶ Currently providing analysis of historical air photographs and an expert opinion relative to chrome waste disposal and movement for AlliedSignal corporation in PRP litigation with PP&G Industries.
- ▶ Provided analysis of historical air photographs, and an expert report for AlliedSignal in a legal action against Exxon regarding the disposal and movement of chrome waste in Jersey City, New Jersey. The case was settled prior to the scheduled court date.
- ▶ Provided expert analysis of historical air photographs regarding the movement, storage and recycling of waste and by-products for an aluminum refining operation at a Superfund site. The work was in support of litigation for an insurance claim.
- ▶ Provided expert air photographic analysis and submitted an expert report for PSN Corporation in litigation of an insurance claim regarding waste removal costs. A deposition has been given, and a trial is pending.

- ▶ Provided expert analysis of air photographs and a rebuttal report for Weyerhaeuser for sites in Everett Wood Washington and Port Newark New Jersey.

#### Environmental Contamination

- ▶ Provided technical review and hydrogeologic opinions regarding metal contamination from a C&D landfill in a personal injury litigation. The work is being performed on behalf of the plaintiff.
- ▶ Provided expert analyses and opinions regarding ground water contamination from municipal salt storage areas for two towns in Upstate New York.
- ▶ Provided expert opinion and support to a Town regarding environmental contamination by pesticides from a commercial pest control facility.
- ▶ Provided expert review and opinions in a personal injury suit involving alleged contamination of a building by petroleum-derived benzene vapors. The work was performed on behalf of the defendants.
- ▶ Currently providing technical review and hydrogeologic opinions regarding the presence and movement of contamination associated with a former coal gasification plant.
- ▶ Currently providing technical review and expert support for a city accused of contaminating underground facility by discharge of contaminated runoff into a Karst aquifer system.

#### Mine Related Issues

- ▶ Provided expert testimony at public hearings, issues conferences and adjudicatory hearings for a proposed sand and gravel mine and several proposed rock quarries. The technical issues involved impacts to residential wells, a community water supply, trout streams, springs and wetlands.
- ▶ Provided expert testimony at an issues conference for Akzo Nobel Salt Inc. in support of the permitting of a large underground salt mine.
- ▶ Provided expert witness support in an insurance litigation concerning the failure of a large underground mine. The expert support was in the technical areas of geology and hydrogeology. The case settled during discovery prior to trial.
- ▶ Currently providing an assessment of mineral resource at a mine for property tax litigation.

### Petroleum Contamination

- ▶ Provided expert review and support for an insurance company's defense of a gasoline station owner being sued by the state for cost recovery in a petroleum remediation project. Also provided technical support to the insurance company in a civil action brought against the same client.
- ▶ Currently providing a review and expert analysis of ground water contamination of a commercial facility by an adjacent petroleum storage facility in central New York.

### Property and Environmental Damages

- ▶ Investigated topsoil conditions and provided expert testimony on behalf of Niagara Mohawk for a dispute along a power transmission line. Sampled soils, documented site conditions with photographs, described soils, prepared a report of findings and testified in New York State Supreme Court.
- ▶ Reviewed consulting reports and provided technical support to counsel for Aetna Insurance in litigation on a claim involving the in filling and subsequent removal of sediment from a pond downstream from a construction site. The case settled prior to trial.
- ▶ Provided support in a personal injury suit and property damage claim involving a mudslide at a commercial property.
- ▶ Conducted an investigation and provided an expert opinion to an insurance carrier regarding the causes of a retaining wall failure.
- ▶ Currently evaluating the potential impacts on a municipal water supply reservoir by sand and clay excavation at an adjacent commercial facility.

### Other Environmental Projects

- ▶ Evaluated the geology, hydrogeology and surface water conditions at the proposed site of the Laredo Fireman Training Facility in Laredo Texas, and assessed the potential for impacts to the water resources in the event of a release at the facility.

## Mining Hydrology, Permitting and EIS Issues

Alpha Geoscience provides geologic and hydrogeologic services to the mining industry that include the evaluation of mineral resources, the characterization of mine site geology, and the assessment of ground water and surface water condition. These projects are for mine feasibility studies, mine planning, mine permitting, ground water and surface water inflow assessment and control, and environmental impact evaluations. The following are a few of Alpha's more significant projects:

- ▶ Provided coring oversight, logged 18,000 feet of rock core, interpreted the geology, conducted hydrologic testing in a packer test hole, conducted pumping tests, interpreted monitoring well data, prepared hydrogeologic reports, and provided expert testimony for Akzo Nobel Salt Inc. in support of the permitting of a 9,000 acre, underground salt mine in Hampton Corners, N.Y.
- ▶ Conducted an extensive investigation of the hydrogeologic conditions within the glacial sediments of the Genesee Valley associated with Akzo Nobel Salt Inc., Retsof Mine. The work involved the drilling and logging of five deep (500 ft.) soil borings, the installation of 15 deep monitoring wells and the hydrologic testing, water quality sampling and water level monitoring from the installed wells. Five major data reports and an interpretation report were prepared as part of the investigation. The objective of the investigation was to monitor and predict the impacts of ground water withdrawal from more than 30 miles of the Genesee Valley.
- ▶ Prepared ground water monitoring plans for three bedrock quarries, an active sand and gravel mine, and an underground salt mine in New York.
- ▶ Assessed hydrogeologic conditions through the evaluation of borehole data, water level data, regional ground water conditions and water budget analyses as required for the mine permits at five rock quarries and three sand and gravel mines in New York and at a rock quarry in Pennsylvania. The results were incorporated into environmental impact statements and permit applications for the proposed mines. The site in Pennsylvania was in an area of significant cave stream and sinkhole development.
- ▶ Conducted a dye trace analysis to evaluate the impacts of mining on critical water supplied springs in a limestone (Karst) terrain.
- ▶ Evaluated the geology, ground water sources, ground water flow paths and the impacts on Howe Cave by mining adjacent to the cavern at the Howe Cave Quarry.

## Environmental Site Assessments (ESA) for Property Transfers

Alpha Geoscience performs Phase I ESA investigations in accordance with the ASTM E1527, Standard Practice for Environmental Site Assessments, except where specific regulations have been established, such as New Jersey's Industrial Site Recovery Act (ISRA). The scope of work generally includes performing a site reconnaissance, interviewing knowledgeable parties, reviewing historical records and preparing a report of findings. Phase II and remediation work is conducted in accordance with applicable state or EPA Chemical Bulk Storage protocols, or solid or hazardous waste protocols, as appropriate. The following is a summary of selected ESA projects performed by Alpha.

### Phase I Assessments

- ▶ Performed an ASTM site assessment of a major shopping center in central New York built on the site of a former inactive hazardous waste site. Refinancing was successfully obtained based on the results of the assessment.
- ▶ Alpha has performed Phase I ESAs at several active and formerly active industrial and commercial facilities. Some of these sites handled hazardous wastes and had environmental concerns related to underground storage tanks and dry wells.
- ▶ Conducted a Phase I Environmental Site Assessment for a former commercial poultry facility. Issues identified at the 300 acre site included pesticide storage and disposal, asbestos-containing materials, an underground fuel storage tank, potential PCB-contaminated oil, drum handling and waste disposal practices.
- ▶ Performed a Phase I ESA for a parcel of land adjacent to an active railroad. Issues included potential soil and ground water contamination from nearby industries and an inactive hazardous waste site.
- ▶ Performed an assessment of potential environmental liability associated with a de-listed New York State hazardous waste site containing metals from tannery wastes and pesticides.
- ▶ Performed several modified Phase I assessments of commercial and agricultural properties for a potential location of cellular telephone transmission towers. The work was performed for the legal firm representing the communications company.
- ▶ Performed Phase I Hazardous Materials Assessments of large area corridors as part of the NYSDOT roadway and utilities upgrades in Saranac Lake Village and Albany, New York (subconsultant).
- ▶ Conducted a series of Phase I ESAs at a variety of properties proposed for use as cellular communication tower sites. The primary objective of the Phase I ESAs was to identify potential existing environmental liabilities before execution of leasing agreements.



## Phase II Assessments

- ▶ Performed Phase I and Phase II site assessments including subsurface investigations for commercial properties, industrial sites and residential properties containing USTs.
- ▶ Performed a limited Phase II subsurface investigation for a former dry cleaning facility in order to evaluate the potential for organic solvent contamination.
- ▶ Conducted a Phase II subsurface investigation of an active county garage site prior to the redevelopment, in order to determine the potential impacts from the handling and storage of petroleum, paints, and solvents.

## **Solid, Hazardous, and Industrial Waste Site Investigations and Remediation**

Alpha Geoscience has conducted numerous projects that involve the design and implementation of investigations for the characterization of soil, rock, surface water, and ground water contamination at waste sites; and for the remediation of waste sites. These investigations have involved a variety of contaminants including; metals, solvents, petroleum products, pesticides, and PCBs. Selected projects are summarized as follows:

### Metal Contamination

- ▶ Designed and implemented the site investigation for a NYS listed inactive hazardous waste site containing metal sludges. Prepared a feasibility assessment of remedial alternatives for submittal to NYSDEC (subconsultant).
- ▶ Performed an assessment of potential environmental liability associated with a de-listed hazardous waste site containing metals from tannery wastes and pesticides.
- ▶ Currently evaluating the movement of lead and other metal contaminants in the soil and ground water adjacent to a C&D landfill.

### Solvents

- ▶ Designed and conducted a bedrock aquifer investigation at a NYS listed inactive hazardous waste site contaminated by chlorinated solvents.
- ▶ Designed and implemented a Phase II soil and ground water investigation at a manufacturing site contaminated by chlorinated solvents and petroleum.
- ▶ Implemented a soil vapor extraction treatment system at an active commercial site contaminated by gasoline and dry cleaning solvents.
- ▶ Provided third party review and critique of an RI/FS at a dry cleaning facility listed as a NYS hazardous waste site. Prepared site remedial plan and cost estimate on behalf of potential purchaser. Currently implementing the remedial plan after assisting with cost recovery from the dry cleaning facility.
- ▶ Conducted hydrogeologic investigation of a property adjacent to a dry cleaning facility listed as a NYS hazardous waste site. Investigation results allowed the client to successfully negotiate a settlement agreement with the waste site owner.

### PCBs

- ▶ Designed and implemented an investigation of surface soil and shallow ground water quality at an active commercial metal recycling facility that is a listed NYS hazardous waste site (on-going).

- ▶ Performed a review of an RI/FS on a commercial scrap yard site contaminated by PCBs and petroleum to evaluate ground water flow paths related to underground bulk storage.
- ▶ Conducted a technical review of soil and ground water data associated with a commercial site in Alabama impacted by PCBs, solvents and petroleum contaminants from an adjacent industrial facility.

#### Hazardous and Solid Waste

- ▶ Currently a subconsultant to the NYSDOT (1996) on a three-year term agreement to conduct Phase II hazardous waste investigations at NYSDOT sites and right-of-ways located in eastern New York.
- ▶ Reviewed hydrogeologic data and evaluated potential hazardous waste liability associated with a site containing solid wastes and pesticides.
- ▶ Performed evaluation and documentation of buried drums of hazardous waste discovered during a foundation excavation. Drums were successfully removed and disposed allowing completion of construction activities.
- ▶ Performed an assessment to identify potential hazardous waste disposal at a former highway maintenance garage facility scheduled for development as an office complex.
- ▶ Supervised a hazardous and solid waste disposal project for a municipal maintenance facility. Provided services including contractor selection, disposal/recycling options and cost analysis.

## **Solid and Hazardous Waste/Siting Studies**

Alpha has conducted subsurface investigations of geologic, hydrogeologic, ground water and surface water conditions for projects involved in the siting and permitting of solid and hazardous waste sites. These projects are summarized as follows:

- ▶ Evaluated the geologic and hydrogeologic characteristics of a proposed paper sludge monofill in upstate New York for an environmental impact assessment. This work was performed as a subconsultant to Encore Paper Company.
  
- ▶ Investigated the regional hydrogeology and prepared a hydrogeologic report for the permitting of an incinerator ash storage facility in an underground salt mine at Retsof, New York for Akzo Salt Company (subconsultant).

## **Petroleum Investigations, Assessments, and Remediation**

Alpha Geoscience is currently involved in several projects involving the investigation, remediation and closure of petroleum release and underground petroleum storage tank sites. Alpha is involved in evaluating whether contamination has occurred, characterizing the extent and degree of ground water and soil contamination, developing and implementing remedial actions, and obtaining regulatory closure of petroleum- impacted sites. The following summarizes some of Alpha's significant projects:

- ▶ (1996-2001) Project hydrogeologists on a term contract to NYS Office of General Services to provide oversight of underground tank closures and to provide remediation services, as needed, throughout eastern New York State (subconsultant). Alpha is currently involved in, or has completed the investigation, remediation or closure of more than 70 tank sites. Client agency facilities include NYSDOT, NYSDOC, NYSP, NYSPR&HP, NYSOMH, NYSOMRDD, SUNY, NY SOGS, and ORDA.
- ▶ (1994-1996) Project hydrogeologists for a term, tanks modification contract, for the New York State Office of General Services (sub-consultant). Documented tank closures, performed assessments and spill investigations, and/or designed soil and ground water clean-ups for 24 state facilities throughout eastern New York.
- ▶ Conducted site assessments, ground water investigations, and provided oversight and documentation of tank removals, tank closures, and site remediation for bulk fuel storage facilities and several active and former retail gasoline stations.
- ▶ Providing monitoring and maintenance of a ground water extraction and treatment system, including NYSDEC reporting, for three potentially responsible parties in Catskill, New York.
- ▶ Providing monitoring and maintenance of a ground water extraction and treatment system and soil-vapor extraction, including NYSDEC reporting, for a Town Highway Maintenance Garage in upstate, New York where a legal action is pending.
- ▶ Documented tank removals, conducted spill investigations, and implemented soil and ground water remediation at several active and inactive commercial and industrial sites in upstate New York. The various remedial systems included pump-and-treat with air strippers and activated carbon units, excavation and on-site treatment, excavation and off-site disposal, and soil vapor extraction.
- ▶ Supervised the tank removals and excavation of petroleum contaminated soils, prepared tank closure assessment reports, and conducted hydrogeologic investigations, as required, for two schools, a library construction site and a residential development site. The sites were subsequently closed by NYSDEC.

## **Air Photograph Interpretation**

Alpha personnel are called upon to interpret air photography for a variety of projects. These services and projects include: fracture trace and geomorphic analysis for water supply exploration; historical analysis in Phase I site assessments for property transfers and projects that could be impacted by existing environmental hazards; the historical analysis of waste movement and disposal practices at hazardous waste sites for environmental damage and PRP claims; and hydrogeologic/terrain analysis for a variety of other environmental projects. These projects are summarized as follows:

### Water Supply

- ▶ Conducted a fracture trace analysis for the development of large (>1 million gallons/day) water supplies for industrial facilities.
- ▶ Conducted a fracture trace analysis for a municipal water supply for the Town of Rensselaerville.

### Environmental Site Assessments

- ▶ Reviewed air photographs for numerous Phase I site assessments for property transactions.
- ▶ Conducted an air photographic analysis for a Phase I assessment of Saranac Lake, New York, for a highway upgrade by the New York State Department of Transportation (subconsultant).
- ▶ Conducted an air photographic analysis for a Phase I assessment of the Pearl Street rehabilitation project in Albany, New York for the NYSDOT (subconsultant).

### Historical Analysis of Hazardous and Solid Waste Sites

- ▶ Documented the historical disposal and movement of chrome waste at several sites in Jersey City, New Jersey for Allied Signal Corporation. The sites are the focus of PRP litigation.
- ▶ Provided a review of air photographs and the air photographic report of the plaintiff's expert for a coal gasification plant waste site involved in PRP litigation.
- ▶ Documented the progression of waste at a site in Jersey City, New Jersey operated by PSN Corporation.
- ▶ Currently providing air photographic interpretation of site activities at a former coal gasification facility and bulk petroleum storage facility that are involved in PRP litigation.

- ▶ Currently providing a historical analysis of an industrial site in South Carolina that is involved in PRP litigation over contamination by hazardous waste.
- ▶ Documented waste disposal practices, contaminant discharges, and historical activities for several sites along the Hylebos Waterway in Tacoma Washington.

#### Other Environmental Projects

- ▶ Conducted a fracture trace analysis and critique of an EPA analysis for a superfund site in Cumberland, Maryland (subconsultant). The bedrock fractures represented the pathways for contaminant migration.
- ▶ Conducted an air photographic analysis for a municipal landfill involved in civil suits concerning environmental damage to surrounding wetlands and private property. Investigated drainage patterns and wetland changes.
- ▶ Provided a second opinion through air photographic analysis regarding site features at a contaminated site for J.R. Kolmer & Associates.
- ▶ Reviewed an EPA air photographic analysis of the Pine Street Canal Superfund Site in Burlington, Vermont and conducted an independent review of historical air photography. The analysis was focused on site conditions and was related to an insurance claim at one of the associated PRP sites.

EMILIO AMBASZ  
CURRICULUM VITAE

Emilio Ambasz, born in 1943 in Argentina, studied at Princeton University. He completed the undergraduate program in one year and earned, the next year, a Master's Degree in Architecture from the same institution. He served as Curator of Design at the *Museum of Modern Art*, in New York (1970-76), where he directed and installed numerous influential exhibits on architecture and industrial design, among them *"Italy: The New Domestic Landscape,"* in 1972; *"The Architecture of Luis Barragan,"* in 1974; and "The Taxi Project," in 1976.

Mr. Ambasz was a two-term President of the *Architectural League* (1981-85). He taught at Princeton University's School of Architecture, was visiting professor at the *Hochschule für Gestaltung* in Ulm, Germany, and has lectured at many important American universities.

Mr. Ambasz' large number of prestigious projects include the **Mycal Sanda Cultural Center** in Japan, the **Museum of American Folk Art** in New York City; and an innovative design of the **Conservatory at the San Antonio Botanical Center**, Texas, which was inaugurated in 1988. Among his award winning projects are the **Grand Rapids Art Museum** in Michigan, winner of the *1976 Progressive Architecture Award* ; a house for a couple in Cordoba, Spain, winner of the *1980 Progressive Architecture Award*; and for the **Conservatory at the San Antonio Botanical Center** in Texas he was awarded the *1985 Progressive Architecture Award*, the *1988 National Glass Association Award for Excellence in Commercial Design*, and the highly esteemed *1990 Quaternario Award* for high technological achievement.

His **Banque Bruxelles Lambert** in Lausanne, Switzerland, a bank interior, received the *1983 Annual Interiors Award*, as well as a *Special Commendation* from the jury. His design for the **Banque Bruxelles Lambert** branch in Milan, Italy, and his design for their New York City branch at Rockefeller Center have been completed. He won the *First Prize* and *Gold Medal* in the closed competition to design the Master Plan for the **Universal Exhibition of 1992**, which took place in Seville, Spain, to celebrate the 500th anniversary of America's discovery. This project was also granted the *1986 Architectural Projects Award*; from the *American Institute of Architects*/New York.



The headquarters he designed for the **Financial Guaranty Insurance Company of New York** won the *Grand Prize of the 1987 International Interior Design Award* of the United Kingdom, as well as the *1986 IDEA Award* from the *Industrial Designers Society of America* (IDSA). He won *First Prize* in the 1986 closed competition for the *Urban Plan for the Eschenheimer Tower* in Frankfurt, West Germany. The magazine *Progressive Architecture* in 1987 and the *American Institute of Architects, New York*, in its *1986 Architectural Projects Award*, cited for awards the Mercedes Benz Showroom design.

Mr. Ambasz represented America at the *1976 Venice Biennale*. He has been the subject of numerous international publications as well as museum and art gallery exhibitions, principal among them the *Leo Castelli Gallery*, the *Corcoran Gallery*, the *Museum of Modern Art*, New York and the *Philadelphia* and *Chicago Art Institutes*. An exhibition entitled "*Emilio Ambasz: 10 Years of Architecture, Graphic and Industrial Design*", was held in Milan in the fall of 1983, traveling to Madrid in May '84, and Zurich in the fall of '84.

The *Axis Design and Architecture Gallery* of Tokyo dedicated a special exhibition of his work in April 1985. In 1986, the *Institute of Contemporary Art of Geneva*, Switzerland at "*Halle Sud*" and, in 1987, the "*Arc-en-Ciel*" Gallery of the *Centre of Contemporary Art* in Bordeaux, France also presented one-man shows of his work.

In 1989, a retrospective of Mr. Ambasz' architectural designs, "*Emilio Ambasz: Architecture*", was held at *The Museum of Modern Art*, New York; and a second traveling exhibition, "*Emilio Ambasz: Architecture, Exhibition, Industrial and Graphic Design*", was held in June of 1989 at the *San Diego Museum of Contemporary Art*, traveling to, among others, the *Musee des Arts Decoratifs de Montreal*, the *Akron Art Museum* in Ohio, the *Art Institute of Chicago* in Illinois, and the *Laumeier Sculpture Park* in St. Louis. Another retrospective of Mr. Ambasz' complete works was held in 1993 at the *Tokyo Station Gallery* in Japan, and in 1994 at the *Centro Cultural Arte Contemporaneo* in Mexico City, as well as in other locations in South America and Europe.

Major international publications, *Domus*, *ON*, *Space and Design*, *Architectural Record* and *Architecture plus Urbanism*, among others, have dedicated special issues to his architectural work. In 1989, *Rizzoli International Publications* printed a monograph of Mr. Ambasz' work to coincide with his exhibition at *The Museum of Modern Art*. In 1993, *Rizzoli International Publications* printed a second monograph chronicling Mr. Ambasz' complete works.

Mr. Ambasz also holds a number of industrial and mechanical design patents. Since 1980 he has been the Chief Design Consultant for the *Cummins Engine Co.*, a company internationally celebrated for its enlightened support of architecture and design. Mr. Ambasz has received numerous industrial design awards. Included among them are the *Gold Prize* awarded for his co-design of the **Vertebra Seating System** by the IBD (USA) in 1977, the *SMAU Prize* (Italy) in 1979, and the coveted *Compasso d'Oro* (Italy) in 1981. In 1991 Mr. Ambasz was again awarded the *Compasso d'Oro* (Italy) prize for his new seating design, **Qualis**.

The **Vertebra** chair is included in the *Design Collections* of the *Museum of Modern Art*, New York, and the *Metropolitan Museum of Art*, New York. *The Museum of Modern Art*, New York, has also included in its *Design Collection* his 1967 3-D Poster **Geigy Graphics** and his **Flashlight**, a design also cited for awards by the *Compasso d'Oro* (Italy) in 1987 and the *IDSA* in 1987. His design for Cummins' **N14 Diesel Engine** won the 1985 *Annual Design Review* from *Industrial Design* magazine. This publication also awarded him similar prizes in 1980 for his **Logotec** spotlight range (which also received the 1980 *IDSA Design Excellence Award*), in 1983 for the **Oseris** spotlight range, as well as in 1986 for his design of **Escargot**, an air filter designed for *Fleetguard Incorporated*.

In 1987, the *Industrial Designer's Society of America* granted its *Industrial Design Excellence* top award for his **Soffio**, a modular lighting system. In 1988, the *IDSA* awarded him the same top honor and in 1989, the *ID Designer's Choice Award* for design excellence and innovation was given for **AquaColor**, a water color set. More recently, in 1992, *IDSA* again awarded Mr. Ambasz top honors for his innovative design of the **Handkerchief Television**, as well as awards for his Sunstar **Toothbrushes** and the **Soft Notebook**, and in 2000, the *IDSA/Business Week GOLD AWARD for Design Excellence* went to Mr. Ambasz for **Saturno**, an innovative street lighting system. The *Tenth Biennial of Industrial Design* (BIO 10, Ljublianna, 1984) granted Mr. Ambasz their *Jury Special Award* "for his many contributions to the design field."

In 1997, Ambasz received the *Vitruvius Award* from the *Museo Nacional de Bellas Artes* for the innovative quality in his work. Recently, the **Mycal Cultural Center** in Shin-Sanda, constructed within close proximity to the epicenter of the devastating Kobe earthquake, received a special award from the *Japanese Department of Public Works*. Its high quality of construction and structural integrity allowed it to withstand this overwhelming natural disaster.

This building, the Mycal Cultural Center at Shin Sanda, Japan, received the *2000 Saflex Design Award*.

In 1999, his design for Cummins Signature 600 Engine received a *Industrial Designers Society of America/Business Week Award for Design Excellence* and in 2000 he received from the same group the *Gold Award* for his design of Saturno, an urban lighting pole system. The very prestigious *American Institute of Architects/Business Week Architectural Award* was granted in 2000 to Mr. Ambasz for his design of the **Fukuoka Prefectural and International Hall** in Fukuoka, Japan. The same building received in 2001 the *First Prize* for environmental architecture from the *Japanese Institute of Architects*. In 2001, Mr. Ambasz received the coveted *Compasso d'Oro* (Italy) for an unprecedented third time for his design of **Saturno**.

## AWARDS LIST

Award	Date	Project
Compasso d'Oro (Premio)	2001	Saturno Urban Lighting Pole System
(JIA) Japanese Institute of Architects Certificate of Environmental Architecture Award (First Prize)	2001	Fukuoka Prefectural and International Hall, Fukuoka, Japan
2001 DuPont Benedictus Award	2001	Fukuoka Prefectural and International Hall, Fukuoka, Japan
2001 DuPont Benedictus Award	2001	Mycal Cultural Center at Shin Sanda, Japan
2000 Saflex Design Award	2001	Mycal Cultural Center at Shin Sanda, Japan
2000 Business Week/Architectural Record Award	2000	Fukuoka Prefectural and International Hall, Fukuoka, Japan
IDSA (Industrial Designers Society of America)/IDEA (Gold)	2000	Saturno Urban Lighting Pole System
IDSA (Industrial Designers Society of America)/IDEA (Bronze)	1999	Cummins Engine
Vitruvius' Award	1997	The innovative quality of his work
JCD Design Award	1995	Mycal Cultural Center at Shin-Sanda, Japan
IDSA (Industrial Designers Society of America)/IDEA (Bronze)	1995	Cummins Mid-Range Engines
ID Annual Design Review	1993	Cummins K-2000E Engines
ID Annual Design Review	1993	Swing Wheel Luggage Cart
IDSA (Industrial Designers Society of America)/IDEA (Bronze)	1992	Soft Notebook Computer
IDSA (Industrial Designers Society of America)/IDEA (Bronze)	1992	Sunstar Toothbrush
IDSA (Industrial Designers Society of America)/IDEA (Gold)	1992	Handkerchief TV
Compasso d'Oro (Premio)	1991	Qualis Seating System
IDSA (Industrial Designers Society of America)/IDEA (Bronze)	1991	Emilio Ambasz Exhibit Poster (LaJolla, California)
IDSA (Industrial Designers Society of America)/IDEA (Bronze)	1991	Tecno Qualis Seating System
IDSA (Industrial Designers Society of America)/IDEA (Silver)	1991	Oseris 12V/50W Spotlight
Quaternario Award (First Prize)	1990	Lucille Halsell Conservatory, San Antonio, Texas, Botanical Center
ID Designer's Choice - Annual Design Review	1989	Herlitz Aqua Color Paint Box
BIO 12	1988	Soffio Modular Lighting System
IDSA (Industrial Designers Society of America)/IDEA	1988	Herlitz Aqua Color Paint Box
National Glass Association Award for Excellence in Commerical Design	1988	Lucille Halsell Conservatory, San Antonio, Texas, Botanical Center
Compasso d'Oro	1987	Flexiboll Writing Pen
IDSA (Industrial Designers Society of America)/IDEA	1987	Soffio Modular Lighting System
IDSA (Industrial Designers Society of America)/IDEA	1987	Polyphemus Flashlight
IIDA - Int'l Interior Design Award	1987	FGIC
Progressive Architecture	1987	Mercedes Benz Showroom
SNAI (Societa Nazionale Artefatti Illuminazio)	1987	Soffio Modular Lighting System
BIO 11	1986	Agamennone Floor Lamp

ID (Industrial Design) Designer's Choice - Annual Design Review	1986	Escargot Air Filter
ID (Industrial Design) Designer's Choice - Annual Design Review	1986	FGIC
IDS(American Institute of Design Society of America)/IDEA	1986	Office Work Modules
NYC/American Institute of Architects - Architectural Projects Award	1986	Expo 1992, Seville
NYC/American Institute of Architects - Architectural Projects Award	1986	Mercedes Benz Showroom
NYC/American Institute of Architects - Architectural Projects Award	1986	Schlumberger Research Lab
Design Center - Stuttgart	1985	Oseris
DuPont Antron Design Award	1985	Office Category
ID (Industrial Design) Designer's Choice - Annual Design Review	1985	Cummins N-14 Diesel Engine
Medalla d'Oro (Primer Premio and Gold Medal)	1985	Expo 1992, Seville
Progressive Architecture	1985	Lucille Halsell Conservatory, San Antonio, Texas, Botanical Center
Worldesign 85/ICIS USA (Int'l Council of Societies Industrial Design)	1985	Certificate of Gratitude
BIO 10	1984	Jury Special Award
AIGA (American Institute of Graphic Arts) Certificate of Excellence	1983	Geigy Poster
Art Director's Club Merit Award (62nd Annual Exhibition)	1983	Surface and Ornament Poster
Fourth Annual Interior Award Trophy	1983	Banque Bruxelles Lambert, Lausanne
IALD - Int'l Assoc of Lighting Designers	1983	Banque Bruxelles Lambert, Lausanne
IBD - Inst of Business Design	1983	Vertair Seating System
ID (Industrial Design) Designer's Choice - Annual Design Review	1983	Oseris Spotlight Range
Design Center - Stuttgart	1982	Dorsal
IDS(American Institute of Design Society of America)/IDEA	1982	Dorsal Seating Range
Premios Konex	1982	Special Award
BIO 9	1981	Vertebra Seating System
Compasso d'Oro (Premio)	1981	Vertebra Seating System
ID (Industrial Design) Designer's Choice for Excellence of Design	1981	Logotec Spotlight Range
IDS(American Institute of Design Society of America) Award for Design Excellence	1980	Logotec Spotlight Range Lighting System
Ind of America	1980	Vertebra Seating System
Progressive Architecture	1980	House for a Couple, Cordoba, Spain
SMAU, Milano	1979	Vertebra Seating System
ID (Industrial Design) for Excellence of Design	1977	Vertebra Seating System
Resources Council Product Design	1977	Vertebra Executive Seating
ID (Industrial Design) for Excellence of Design	1976	The Taxi Project Exhibit
Progressive Architecture	1976	Community Arts Center, Grand Rapids, Michigan
Print Casebooks 2 Certificate of Design Excellence	1974	Chairs by Charles Rennie Mackintosh Exhibit
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## **Creighton Manning Engineering, LLP**

Creighton Manning Engineering, LLP (CME) is a New York-based traffic and transportation engineering consulting firm established in 1995 to continue and expand the work of Creighton Manning, Incorporated. CME is located in Albany and provides consulting services throughout the Northeastern United States. Originally organized to provide professional services in local and regional transportation planning, the firm now provides traffic engineering, highway design, construction supervision, and survey services. The firm has completed projects and studies throughout New York State and has worked with numerous Metropolitan Planning Organizations.

CME has the scope and depth of expertise necessary to address the range of transportation issues. The professional staff of CME offers the project sponsors a broad range of capabilities including: transportation planning, traffic engineering, highway design, transportation modeling, rural and regional planning, highway cost estimating, land surveying, and public participation. CME is recognized throughout New York State for their expertise in traffic engineering and transportation planning, as evidenced by the designation of CME on all of the NYSDOT Traffic Engineering Services Term Agreements.

# Creighton Manning Engineering, LLP

## Qualifications

### HISTORY/DESCRIPTION OF CME

For over 35 years, Creighton Manning Engineering, LLP (CME) and its predecessor firms have been providing transportation planning and traffic engineering services throughout New York State. Highway design, surveying, and environmental study services were added as the firm grew and expanded. CME is a full service firm. We now offer a complete range of services that provide the capability to plan, design, and implement projects that range in scale from a single intersection improvement to a major regional transportation project. The firm's mission statement is simple and direct: ***"To get the job done right, on time, within budget, and with value added by our experienced staff."*** It defines the way we work and our dedication to great service and a quality product for our clients.

Currently, there are 19 employees at CME with a wide range of professional education and experience who are guided by this mission statement. There are six licensed professionals, all of whom serve as project managers on selected projects. Associates in the firm have extensive experience in transportation planning, traffic engineering, highway design, environmental studies, and surveying. CME is always sensitive to the needs of all of the stakeholders affected by our planning and design projects. If necessary, air quality, noise analysis, and wetland delineations are prepared. Most projects involve extensive public participation through formal meetings and informal conversations. For example, on a recent project, information was presented to local citizens and officials, the New York State Office of Parks, Recreation and Historic Preservation, NYSDOT, and local park personnel. As part of the NESTS project in Ithaca, CME participated with the community Dispute Resolution Center in a participatory process that involved all members of the community as well as local officials. One of the factors that has contributed to the success of the firm in addressing local concerns is that context sensitive solutions is one of our specialties. Recently, CME has been jointly awarded (with NYSDOT Region 1) the ITE Upstate Section – 2000 Project of the Year Award. The project that received the award demonstrated how the firm addressed the concerns of neighborhoods with the inclusion of multi-use paths, special lighting treatments, landscaping, traffic calming provisions, sidewalks, crosswalks, and alternative pavement treatments. All of the firm's projects incorporate context-sensitive concepts.

### EXPERIENCE OF THE FIRM WITH COMMUNITY PARTICIPATION

CME has completed numerous projects that have required public involvement and the ability to blend engineering, municipal, and citizens' concerns into a consensus decision. The Firm's community participation has ranged from small presentations to town boards to the preparation for, and technical presentation at, large-scale public hearings. With a properly structured public participation process, officials, interest groups and the general public will be afforded opportunities to voice their concerns and needs. For example, we recognize, as transportation planners and engineers, that the reconfiguration of the highway will have a significant impact on traffic during construction. Other issues of community interest include impact on the tax base, structured growth, utility services, and local roadway safety and congestion issues. It will be important to open a dialogue with the public on these issues. The community participation process will use many successful techniques with one-on-one meetings with key officials, open house presentations, task force groups, creative feedback activities, and high technology information transfer (i.e., web page, e-mails, etc.) CME can use computer-generated presentations to help convey design concepts to the traveling public. We have assigned our senior personnel to this task to ensure that effective community participation is obtained throughout the process and that effective public presentations are delivered.

## **INDEPENDENT QUALITY ASSURANCE REVIEW**

Before transmitting each product (reports, plans, specifications, estimates, etc.) to a client, CME will review it for quality assurance regarding overall compliance with all State and County requirements. This shall be a peer review performed by someone independent of the individual or Team that developed the product. (All quality control, i.e., detailed checking of work and supervisory effort, is covered under individual work tasks.) CME shall similarly review any subconsultant's product for quality assurance before transmitting it to the Client. No subconsultant work shall be submitted to the Client for project use without a prior quality assurance check.

## **PERFORMANCE EVALUATIONS FOR CREIGHTON MANNING ENGINEERING, LLP**

### **Recent Comments from NYSDOT Performance Evaluations:**



- "Consultant personnel have been totally reliable and are capable of handling the project. The project has increased in size (doubled) from what had been originally scoped and the Consultant has made the necessary staffing adjustments to maintain the schedule. They have followed instructions well and have been very responsive in resolving problems resulting from the numerous dynamic changes that have occurred during the project. Presentations to the Department, the NYS Office of Parks, Recreation and Historic Preservation, and Saratoga Springs City officials have been clear and effective. This firm should definitely be considered for additional design assignments in the future."  
*George Hodges / Herbert Roy, NYSDOT – US Route 9 (South Broadway)*
- "CME demonstrated an excellent knowledge of traffic modeling and in utilizing the latest transportation planning software."  
*David Watson, NYSDOT – Jefferson Road, Route 252 Rehabilitation*
- "One of the strengths demonstrated by the Consultant is the ability to work with the local community effectively."  
*Larry Shajuyigbe, NYSDOT – Greater Lake Placid Transportation Study*
- "The Consultant provided an excellent team that were very responsive to our requests to perform work in a short period of time. They act in a professional manner and deliver quality products. The Consultant staff also have excellent management skills in terms of schedule and cost control."  
*Michael A. Shamma, NYSDOT Traffic Engineering Services Term Agreement*

### **CLIENTS/REFERENCES FOR CREIGHTON MANNING ENGINEERING, LLP**

- Mark Silo, Regional Design Engineer, NYSDOT Region 1, #518-474-6285
- Bill Anslow, Albany County DPW, #518-765-2786
- Gregg Nolte, Bethlehem School District, #518-439-2123
- Dr. Margaret Dames, Cornwall School District, #845-534-8009x8002
- Peter Traub, NYSDOT Region 8, #845-431-5856
- Carol Cotton, NYSDOT Region 8, # 845-431-5804
- Scott Sopczyk, Adirondack-Glens Falls Transportation Committee, #518-746-2199
- James Brown, Empire State Games, #315-736-8943
- Maureen Connolly, OpSail 2000, #860-448-2000
- Randall Olocki, R.A., University at Albany, #518- 442-3429
- Jim Papaleo, NYSDOT Region 2, #315-793-2456
- John Kwak, City of Kingston, #845- 331-0080 x 3967



- Wayne Kenyon, NYSDOT Consultant Mgmt. Bureau #518-457-6009
- George Hodges, NYSDOT Region 1, #518-473-6375
- Mark Kennedy, NYSDOT Region 1, #518-474-6377
- Herbert Roy, NYSDOT Consultant Management Bureau, #518-457-2806
- Rob Cherry, NYSDOT Region 1, #518-473-7034
- Gregg Menard, NYSDOT Consultant management Bureau, #518-457-0191
- Dan Shuster, Town of Ulster, #914-687-0758
- Rick Papaj, NYSDOT Region 4, #716-272-3417
- Dennis Doyle, Ulster County, #845-340-3340
- Glenn Boucher, NYSDOT Region 8, #845-575-6054
- Richard Peters, NYSDOT Region 8, #845-431-5723
- Doug Boyce, Hannaford Brothers Co., #800-341-6398x2852
- Mark White, NYSDOT Region 1, #518-473-6612
- John Collins, The Great Escape, #518-792-3500x202

**Statement of Qualifications**

**WATER AND WASTEWATER ENGINEERING**

**Submitted to**

**CROSSROADS VENTURES, L.L.C.**

P.O. Box 267  
Mt. Tremper, NY 12457

**Submitted by**



**Delaware Engineering, P.C.**

28 Madison Avenue Extension  
Albany, New York 12203

January 2002

# DELAWARE ENGINEERING, P.C.

## *Profile Brief*

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Delaware Engineering, P.C. offers an experienced technical staff working together to provide civil and environmental expertise to meet the infrastructure and environmental challenges of our customers.

Building on a strong background in municipal engineering, principally water and wastewater engineering, the firm has transitioned to offer a broad range of environmental services, including landfill design and closure, industrial decontamination and demolition, groundwater and soil remediation, wetland and ecological assessment, industrial hygiene, and compliance. Building services credentials include design and management for the renovation of numerous public and private facilities.

The firm has enjoyed steady growth over the past 14 years and now employs 35 professionals based in three Upstate offices: Albany, Oneonta, and Walton, New York.

Professional and graduate engineers, environmental scientists, chemists, industrial hygienists, geologists, biologists, planners, and computer aided design specialists comprise our technical staff. Our professionals are solution oriented and are extremely adept at navigating New York's regulatory maze. Several of our senior managers gained their regulatory experience while employed by the NYS Department of Environmental Conservation and NYS Department of Health.

Our client base and project experience is diverse; our current project workload ranges from the design of a \$20mm wastewater treatment plant, to the closure of an industrial landfill, to the assessment of indoor air within a "sick" building. Our client base includes the public and private sectors; municipalities and State agencies; chemical and paper manufacturers; solid and hazardous waste site operators.

Our growing client list and high percentage of repeat customers is a strong demonstration of our commitment to client satisfaction. We look forward to solving the continuing challenges faced by our customers into the 21<sup>st</sup> century.

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# DELAWARE ENGINEERING, P.C.

## *Profile Brief*

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### History:

Delaware Engineering, P.C. was founded in 1987.

### Ownership:

The firm is wholly owned by Kathleen Suozzo, P.E. and James Suozzo, P.E.

### Type of Business:

Incorporated in New York as a Professional Corporation, Delaware Engineering is licensed to practice engineering in the.

### Office Locations:

Albany, Oneonta, and Walton, New York.

### Staff Resources:

Total Staff = 35 professional, technical and support staff.

Civil Engineers:	15
Environmental Scientists:	7
Planning:	1
W/WW Contract Operations:	4
Construction Managers/Support	8
TOTAL:	35

### Practice Areas:

Delaware Engineering, P.C. provides civil and environmental engineering and science in the following areas:

- Water/Wastewater
- Environmental Remediation (RI/FS)
- Solid & Hazardous Waste
- Building Decontamination/Demolition
- Planning/GIS/Economic Development
- Wetlands Delineations
- Environmental Chemistry/Data Mgmt.
- Permitting/SEQR
- Municipal & Industrial Buildings
- Industrial Hygiene/Health & Safety
- Air Permitting
- Environmental Site Assessments
- Construction Management

### Client List:

Our diverse, growing customer base includes:

- General Electric
  - Waste Management
  - Blue Circle Cement
  - International Paper Company
  - Surpass Chemical
  - Burmah Castrol
  - Numerous Municipalities
  - NYSOGS
  - DASNY
  - Hartwick College
  - SUNY
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**NEW YORK CITY WATERSHED  
WASTEWATER TREATMENT PLANT DESIGN AND CONSTRUCTION SERVICES**

**EXPERIENCE SUMMARY**

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Delaware Engineering is currently engaged in either design or construction activities at a number of West-of-Hudson wastewater treatment facilities. Our staff represented the Coalition of Watershed Towns during the negotiations of the MOA and have solid project experience and working relationships with NYCDEP engineers. Our current municipal NYCDEP-reimbursed projects include:

<b>Client</b>	<b>Flow</b>	<b>Construction Value (\$mm's)</b>
Village of Walton	1.2 MGD	\$10.0
Village of Delhi	0.8 MGD	\$7.0
Village of Stamford	0.8 MGD	\$5.5
NYS Dormitory Authority	0.1 MGD	\$1.5
IBM Industrial Facility	0.1 MGD	\$3.0
DMV Industrial Facility	0.2 MGD	\$2.5
Camp Nubar	0.1 MGD	\$1.5

**SELECTED NYC WATERSHED WWTP PROJECT SUMMARIES**

**Village of Delhi, Wastewater Treatment Plant Upgrade to comply with NYC Watershed Rules and Regulations.** This project involves the design and construction supervision for the upgrade of the Village of Delhi WWTP. The existing plant is a trickling filter which will be converted to a Sequencing Batch Reactor plant that will use the Continuously Backwashed Upflow DualSand Filter System for tertiary treatment. The plant's current SPDES discharge limit of 500,000 gpd will be increased to 800,000 gpd to accommodate the inclusion of another currently permitted discharge. This step required negotiation with the NYCDEP, the Village and the owner of the permitted discharge. The Delhi WWTP is located in a phosphorus restricted basin, therefore the expansion required a variance and accepting a lower phosphorus limit on the total expanded flow.

**Village of Walton Wastewater Treatment Plant Upgrade, Walton, New York.** This project involves the upgrade of the 1.7 MGD activated sludge wastewater treatment plant owned and operated by the Village of Walton. The upgrade is mandated under the Rule and Regulations for the protection of the New York City Watershed and includes the design and installation of a 1 MG equalization tank and the addition of tertiary treatment and backup systems for power and disinfection.

**IBM Somers Office Complex Wastewater Treatment Plant Upgrade, Somers, New York.** This facility is located within the New York City Watershed and must be upgraded to include tertiary treatment and backup systems to comply with Watershed Rules and Regulations. Delaware Engineering staff worked with the owner and the NYCDEP to fast-track design and bidding of the equipment for this upgrade project. Delaware Engineering is providing planning, permitting, regulatory compliance, design, bid documents, bid assistance, construction supervision, and startup and testing services.

**NEW YORK CITY WATERSHED  
WASTEWATER TREATMENT PLANT DESIGN AND CONSTRUCTION SERVICES**

**EXPERIENCE SUMMARY**

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**Wastewater Treatment Plant Upgrade and Sewer Line Replacement/Repairs, OMRDD Taconic DDSO, Camp Harriman, Jewett, New York.**

Located within the New York City Watershed, the wastewater treatment plant at Camp Harriman is subject to upgrade under the Watershed Rules and Regulations. Delaware Engineering staff are responsible for both the upgrade of the treatment plant as well as the design and implementation of a correction action program to reduce inflow and infiltration into the Camp's collection system. The corrective action program, which involves the replacement of 30-year old asbestos concrete piping as well as the repair and/or replacement of numerous manholes, has been designed and was completed in the Spring of 2001. The subsurface discharge alternative to the upgrade of the treatment plant has recently been approved by DEP, resulting in significant cost savings in the project budget.

**Wastewater Treatment Plant Upgrade, Camp Nubar, Delaware County, New York.**

Delaware Engineering, P.C. is pleased to have been selected to provide engineering services for the upgrade of the Camp Nubar Wastewater Treatment System. Camp Nubar operates a 0.0125 MGD wastewater treatment system for which investigation for subsurface disposal are progressing. Delaware Engineering is responsible for evaluating upgrade alternatives and providing design, permitting and construction phase services for the selected upgrade alternative.

**Wastewater Treatment DualSand™ Pilot Studies, Delhi and Stamford, New York**

Completed in June 1995, the Village of Delhi DualSand™ Pilot Study was the first of a series of advanced wastewater treatment pilot projects in concert with NYCDEP. The successes realized in Delhi and followed by continued achievements in Stamford in June 1996 lead to the final study conducted in Stamford and completed in November of 1997. Results are significant to the necessary upgrade of the 105 or more West of Hudson Watershed WWTP facilities and will lead to satisfaction of the regulatory requirements stipulated by the Watershed Memorandum of Agreement. Mr. Suozzo provided structural, geotechnical, process, project management, and design.

**Temporary Wastewater Treatment Plant, Village of Pine Hill, New York**

Delaware Engineering was instrumental in the coordination, design and construction management of this fast tracked 1.25 MGD temporary facility. This watershed community project was strategic to the final \$30,000,000 upgrade program for the Pine Hill facility. Mr. Suozzo provided structural, geotechnical, process, project management, and detailed design.

**DELAWARE ENGINEERING, P.C.**  
**Selected Wastewater and Water Project Experience**

Wastewater

**City of Cortland Wastewater Treatment Plant**

**Contact: James Cunningham, Ogden/Yorkshire, 315-853-1362**

Project cost \$10,000,000; completed 1995. This facility was upgraded under a NYSDEC consent order and essentially had been out of compliance frequently over the past ten years. The plant process was changed from a physical-chemical plant to a biological facility. The plant design flow is 9.0 MGD and the project was completed \$3,000,000 under budget.

**Village of Walton Wastewater Treatment Plant Upgrade**

**Contact: Carl Vogel, Village of Walton Mayor  
607-865-4358**

Project cost \$3,000,000; completed September 1992. This 1.1mgd facility was under a NYSDEC Consent Order and NYCDEP scrutiny for SPDES Permit non-compliance. It is the largest WOH WWTP and the closest to the Cannonsville Reservoir. This facility serves a community of 3326 and receives approximately 80% of its loading from Kraft Foods, a major area employer. The upgrade included the design of a biological system more compatible with the variable dairy waste stream, additional capacity and improved sludge management facilities. Plant automation was essential to the successful completion of this project. The system design necessitated the integration of milk waste from Kraft Foods along with the unique operation and design requirement that waste of this type demands. Delaware Engineering was completely involved with the pretreatment aspect of Kraft waste and the subsequent operational changes needed to handle the modified load.

**Village of Delhi Wastewater Treatment Plant**

**Client Contact: Michael Wilson, Village of Delhi WWTP, 607-746-3638.**

Project cost \$500,000; completed 1991. This plant had been experiencing non-compliance due to inadequate settling. The plant was modified to include a new settling tank, chemical feed capability and chlorination dechlorination facilities. A portion of the facility was paid for by NYCDEP. Delaware Engineering is heavily involved with operations at the Delhi WWTP.

**City of Oneonta Wastewater Treatment Plant**

**Contact: David Brenner, City of Oneonta Mayor, 607-432-6450.**

Project cost \$2,200,000; completed 1994. This 5.0 MGD wastewater treatment facility was upgraded to meet ammonia standards as required by NYSDEC along the Susquehanna River. The project consisted of nine new biological units [RBC's] and sludge dewatering.

**DELAWARE ENGINEERING, P.C.**  
**Selected Wastewater and Water Project Experience**

**Town of Owego Wastewater Treatment Plant**

**Contact:** Carol Sweeney, Town of Owego Supervisor, 607-625-2197.

Project cost \$4,000,000; estimated completion December 1998. This wastewater treatment facility project encompasses the upgrade of the 2.0 mgd plant including the planning, design and construction of the building. The project involves treatment of a high strength industrial waste similar to milk in its organic content and ability to consume oxygen. Our firm has a key role along with the Town, Hadco Corporation and NYSDEC in bringing the project in on budget.

**Pine Hill Temporary Wastewater Treatment Facility**

**Contact:** Ed Kahil, NYCDEP Inspector, 914-254-6930

Project cost of \$2,000,000; completed November 1996. The firm was instrumental in the coordination, design [including tertiary sand filters] and construction management of this fast tracked temporary facility. This watershed community project was strategic to the final \$30,000,000+ upgrade program.

**Village of Cooperstown Wastewater Treatment Plant**

**Contact:** Dr. Theodore Peters,  
Village of Cooperstown Board Member, 607-547-8572.

Project cost of \$1,000,000; completed 1989. The purpose of this upgrade was to remove ammonia. The plant was originally a trickling filter facility that could not remove NH<sub>3</sub> and was in non-compliance. The project was finished under \$1,000,000 and has maintained compliance since completion of the upgrade.

**Village of Delhi WWTP DualSand™ Filter Pilot Study, Village of Stamford WWTP DualSand™ Filter Pilot Study and Village of Stamford WWTP DualSand™/Memcor Demonstration Pilot**

**Client Contact:** John Finocan, Village of Stamford Mayor, 607-652-6671.

Combined project costs \$938,568. The Village of Delhi's venture completed in June 1995 was the first of a series of advanced wastewater treatment pilot projects in concert with NYCDEP. The successes realized in Delhi and followed by continued achievements in Stamford in June 1996 led to the final study conducted in Stamford and completed in November 1997. Results are significant to the necessary upgrade of the 105+ WOH Watershed WWTP facilities and will lead to satisfaction of the regulatory requirements stipulated by the Watershed MOA.



**DELAWARE ENGINEERING, P.C.**  
**Selected Wastewater and Water Project Experience**

**City of Norwich Water Plant Pilot & Plant Upgrade**

**Contact: Mayor Bob Raphael**  
**607-334-1201**

Pilot project cost \$33,000; completed February 1998; Plant Upgrade anticipated costs in excess of \$150,000 with completion by 1998 year end. Basis of pilot was to reuse existing pressure filters to ascertain the appropriate filter media that will work with the water and obtain NYSDOH approval of the piloted non-standard equipment. Once approved, the modified filtration and chemical feed systems will be utilized in the plant upgrade.

**Village of Bainbridge Water System Improvements, Well House Construction & Water Tank Installation**

Project cost \$1,200,000; estimated completion fall 1998. The water systems improvements will replace up to 20,000 linear feet of water distribution lines within the Village boundaries. The installation of a new 300,000 gallon water tank is to meet increasing needs of this residential, commercial and industrial community and afford an excess of one day water storage. The new well and well house will allow the Village to realize significant cost savings by filling during off peak hours .

**Village of Northville Well House Construction and Water Line**

Project cost \$1,590,00; estimated completion fall 1998. Construction of a new minimum 400,000 gallon water tank and the rehabilitation of an existing water tank. The scope of this project also includes a new well house, improvements to existing distribution systems and new transmission from wells to well house. This project was one of four to receive first round SRF funding. It necessitated coordination and regulatory satisfaction of several agencies [e.g., Hudson River/Black River Regulatory Agency, US Army Corps of Engineers, NYSDEC, NYSDOH, etc.].

**Village of Stamford Water System Improvements**

Project cost \$1,134,000; estimated completion date of September 1998. This project is one of four receiving first round approval of SRF program funds and will replace over 6000 linear feet of century old water distribution lines. Other elements include the addition and replacement of system hydrants and valving, rehabilitation of the 1.5mg water storage reservoir, renovation to the existing surface water supply reservoir and addition of a filtration system for treatment of that surface supply. Once the filtration portion of the project is completed approximately 300,000gpd supply redundancy will be added to this community of 1200.

**DELAWARE ENGINEERING, P.C.**  
**Selected Municipal Water Projects**

**Village of Keeseville Water Supply, Treatment and Distribution System Improvements**

Delaware Engineering has recently been engaged by the Village of Keeseville located in Clinton and Essex counties, New York to provide an evaluation of the current water supply and distribution system with recommendations for supply sources, treatment requirements and technologies and distribution system upgrades. The project, which is funded by a DWSRF low-interest loan and grant package combination, is in the initial phases with an engineering report due to the NYSDOH in the early fall of 1999.

**Village of Canajoharie Water System Improvements**

Delaware Engineering is providing design for a 1.5-MGD slow sand filtration plant for the Village of Canajoharie. The design also entailed improvements to the supply and distribution system aimed at resolving long term water quality and pressure problems in the Village. Our staff directed set-up and initiation of testing of a slow sand filtration pilot study on the Village water supply, including a processed filter media - crushed glass. Staff also performed an analysis of initial pilot test that used conventional sand media. Delaware provided design evaluations, sizing, and preliminary layout for a full-scale slow sand filter plant, as well as final plans, specifications and estimates. The project is currently under construction with Delaware providing construction supervision.

**Village of Stamford Water System Improvements**

With a project cost of \$1,134,000, water system improvements designed by Delaware were completed in September 1998. This project was one of four receiving 1998 first round approvals of SRF program funds and involved the replacement of over 6000 linear feet of century-old water distribution lines. Other elements include the addition and replacement of system hydrants and valves, rehabilitation of the 1.5mg water storage reservoir, renovation to the existing surface water supply reservoir and addition of a filtration system for treatment of that surface supply. The filtration portion of the project resulted in a 300,000-gpd supply redundancy for this community of 1200.

**DELAWARE ENGINEERING, P.C.**  
**Selected Municipal Water Projects**

**Water Supply Report, Crossroads Four-Season Resort Development, Belleayre, New York**

Delaware Engineering is providing water supply report to be included in the Draft Environmental Impact Statement for a multi-location, four-season resort development in the Catskill Mountains. Engineers and planners from Delaware work with the project hydrogeologist in well development and water quality analysis. Delaware is preparing conceptual designs in light of regulatory requirements to be included in the DEIS. The project is located within the New York City Watershed and is under the permitting authority of the New York City Department of Environmental Protection and State of New York Departments of Health and Environmental Conservation, as well as county and municipal entities.

**Village of Bainbridge Water System Improvements, Well House Construction & Water Tank Installation**

The water systems improvements in the Village of Bainbridge will replaced up to 20,000 linear feet of water distribution lines within the Village boundaries. The installation of a new 300,000-gallon water tank provided to meet increasing needs of this residential, commercial and industrial community and afford an excess of one-day water storage. The new well and well house provides the Village with significant cost savings by filling during off peak hours. The project cost \$1,200,000 and was completed in the fall of 1998.

**Village of Northville Well House Construction and Water Line**

Completed in the fall of 1998, this project involved the \$1,590,00 construction of a new minimum 400,000-gallon water tank and the rehabilitation of an existing water tank. A new well house, improvements to existing distribution systems and new transmission from wells to well house were also included. This project was one of four to receive 1998 first round SRF funding. Agency coordination was key to the success of the project. Involved parties included the Hudson River/Black River Regulatory Agency, US Army Corps of Engineers, NYSDEC, and NYSDOH, as well as local municipal authorities.

## **Wastewater Treatment Plant Evaluation and Upgrade Experience**

### **Village of Walton, Wastewater Treatment Plant Upgrade, Walton New York**

This 1.1mgd facility was under a NYSDEC Consent Order and NYCDEP scrutiny for SPDES Permit non-compliance. It is the largest WOH WWTP and the closest to the Cannonsville Reservoir. This facility serves a community of 3326 and receives approximately 80% of its loading from Kraft Foods, a major area employer. The upgrade included the design of a biological system more compatible with the variable dairy waste stream, additional capacity and improved sludge management facilities. Plant automation was essential to the successful completion of this project. The system design necessitated the integration of milk waste from Kraft Foods along with the unique operation and design requirement that waste of this type demands. Delaware Engineering was completely involved with the pretreatment aspect of Kraft waste and the subsequent operational changes needed to handle the modified load. Project cost: \$3,000,000.

### **Village of Delhi Wastewater Treatment Plant Upgrade, Delhi, New York**

This plant had been experiencing non-compliance due to inadequate settling. The plant was modified to include a new settling tank, chemical feed capability and chlorination dechlorination facilities. A portion of the facility was paid for by NYCDEP. Delaware Engineering is heavily involved with operations at the Delhi WWTP. Project cost: \$500,000.

### **City of Oneonta Wastewater Treatment Plant Upgrade, Oneonta, New York**

This 5.0 MGD wastewater treatment facility was upgraded to meet ammonia standards as required by NYSDEC along the Susquehanna River. The project consisted of nine new biological units [RBC's] and sludge dewatering. Project cost: \$2,200,000.

### **Town of Owego Wastewater Treatment Plant Upgrade, Owego, New York**

This wastewater treatment facility project encompasses the upgrade of the 2.0 mgd plant including the planning, design and construction of the building. The project involves treatment of a high strength industrial waste similar to milk in its organic content and ability to consume oxygen. Our firm has a key role along with the Town, Hadco Corporation and NYSDEC in bringing the project in on budget. Project cost: \$4,000,000.

### **Camp Creek Wastewater Treatment Plant Expansion Conceptual Engineering, Fulton County, Georgia, US**

Delaware Engineering provided conceptual engineering for the expansion of a 13-MGD wastewater treatment plant to accommodate 24-MGD under a design/build contract. The current facility is an activated sludge process without tertiary treatment. Delaware's conceptual design incorporated elements of the existing process, improve primary and secondary treatment, and add tertiary treatment. The basin into which the facility discharges is restricted due to periodic oxygen sags. An increase in capacity can be granted only through the discharge of drinking water quality effluent.

### **Campo Grande Brazil, Wastewater Treatment System Upgrades Conceptual Engineering**

Staff from Delaware Engineering provided conceptual engineering for the upgrade of five existing wastewater treatment facilities and the construction of new facilities for design/build review purposes. Anaerobic reactors and bio-towers as well as aerobic reactors were evaluated. The existing facilities were assessed with some slated for upgrades while others would serve as primary treatment facilities and pump stations.

## **Wastewater Treatment Plant Evaluation and Upgrade Experience**

Improved effluent quality resulting from the Delaware conceptual treatment process led to the evaluation of alternative discharge scenarios, including the use of constructed wetlands.

### **Key Largo Wastewater Treatment System Conceptual Engineering, Monroe County, Florida, US**

Located in the environmentally sensitive Florida Keys, the conceptual designs provided by Delaware Engineering for this design/build project incorporated sequencing batch reactors (SBR's) followed by tertiary treatment using DualSand™. Additionally, alternative discharge scenarios were proposed including discharge to a mangrove swamp to provide water recharge and reuse of the effluent for irrigation at resorts, golf courses and along landscaped highway corridors.

### **Wastewater Treatment DualSand™ Pilot Studies, Delhi and Stamford, Delaware County, New York, US**

Completed in June 1995, the Village of Delhi DualSand™ Pilot Study was the first of a series of advanced wastewater treatment pilot projects in concert with NYCDEP. The successes realized in Delhi and followed by continued achievements in Stamford in June 1996 lead to the final study conducted in Stamford and completed in November of 1997. Results are significant to the necessary upgrade of the 105 or more West of Hudson Watershed WWTP facilities and will lead to satisfaction of the regulatory requirements stipulated by the Watershed Memorandum of Agreement.

### **Temporary Wastewater Treatment Plant, Village of Pine Hill, Ulster County, New York, US**

Delaware Engineering was instrumental in the coordination, design and construction management of this fast tracked 1.25 MGD temporary facility. This watershed community project was strategic to the final \$30,000,000 upgrade program for the Pine Hill facility.

### **City of Cortland Wastewater Treatment Plant, Cortland County, New York, US**

This facility, which was plagued by non-compliance for over ten year, was upgraded under a NYSDEC consent order. The plant process was changed from a physical-chemical plant to a biological facility. With a design flow of 9.0 MGD, the project was completed \$3 million under budget. Project cost: \$10,000,000.

***EXPERIENCE PROFILE:***

Mr. Suozzo has over twenty-three years of varied, in-depth water and wastewater facilities engineering experience including investigations, planning, design, operations consulting, facilities operations, and instruction in operations and regulatory environmental protection.

***EDUCATION:***

B.S. Civil Engineering, Kansas State University  
12 Masters Credits in Environmental Engineering, Kansas State University  
A.A.S. Engineering Science, SUNY at Delhi

***CERTIFICATIONS:***

Professional Engineer, New York  
Grade 1 Wastewater, Treatment Plant Operators, Syracuse University  
Advanced Operations, NYS Department of Environmental Conservation

***PROJECT EXPERIENCE:***

**Wastewater Treatment DualSand™ Pilot Studies, Delhi and Stamford, New York**

Completed in June 1995, the Village of Delhi DualSand™ Pilot Study was the first of a series of advanced wastewater treatment pilot projects in concert with NYCDEP. The successes realized in Delhi and followed by continued achievements in Stamford in June 1996 lead to the final study conducted in Stamford and completed in November of 1997. Results are significant to the necessary upgrade of the 105 or more West of Hudson Watershed WWTP facilities and will lead to satisfaction of the regulatory requirements stipulated by the Watershed Memorandum of Agreement. Mr. Suozzo provided structural, geotechnical, process, project management, and design.

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**City of Cortland Wastewater Treatment Plant**

Project cost \$10,000,000; completed 1995. This facility, which was plagued by non-compliance for over ten year, was upgraded under a NYSDEC consent order. The plant process was changed from a physical-chemical plant to a biological facility. With a design flow of 9.0 MGD, the project was completed \$3 million under budget. Mr. Suozzo provided structural, geotechnical, process, project management, and design.

**Village of Walton Wastewater Treatment Plant Upgrade**

Project cost \$3,000,000; completed September 1992. This 1.1mgd facility was under a NYSDEC Consent Order and NYCDEP scrutiny for SPDES Permit non-compliance. It is the largest WOH WWTP and the closest to the Cannonsville Reservoir. This facility serves a community of 3326 and receives approximately 80% of its loading from Kraft Foods, a major area employer. The upgrade included the design of a biological system more compatible with the variable dairy waste stream, additional capacity and improved sludge management facilities. Plant automation was essential to the successful completion of this project. The system design necessitated the integration of milk waste from Kraft Foods along with the unique operation and design requirement that waste of this type demands. Delaware Engineering was involved in all aspects of the pretreatment of Kraft waste and the subsequent operational changes needed to handle the modified load. Mr. Suozzo provided structural, geotechnical, process, project management, and design.

**Village of Delhi Wastewater Treatment Plant**

Project cost \$500,000; completed 1991. This plant had been experiencing non-compliance due to inadequate settling. The plant was modified to include a new settling tank, chemical feed capability and chlorination dechlorination facilities. A portion of the facility was paid for by NYCDEP. Delaware Engineering is heavily involved with operations at the Delhi WWTP. Mr. Suozzo provided structural, geotechnical, process, project management, and design.

**Suncastle Wastewater Treatment Plant**

For the Suncastle Timeshare residential development wastewater treatment system, Mr. Suozzo acted as Project Manager and lead engineer for an extended aeration, activated sludge treatment plant designed for a peak daily flow of 35,500 gpd with an effective operating treatment range of 27,000 to 40,000 gpd. The treatment system consists of two concrete 35,000 gallon aeration tanks operating in parallel, capable of operating in a sequence batch mode during extended low flow periods. After optimum aeration, the wastewater gravity feeds to two 7,200 gallon clarifier tanks. After solids settlement, the clarified water gravity to a Dynasand filtration unit and then to a clear well. Setttable solids are removed from each clarifier by a 4-inch air lift pump and stored in two 9,000 gallon concrete digesters. Filtered water is chemically treated after filtration and pumped by a submersible pump to a subsurface absorption bed sized to satisfy state and local application rate codes.

**Kent Manor Wastewater Treatment Plant**

Mr. Suozzo provided project management and engineering for the Kent Manor residential development wastewater treatment system which consists of an extended aeration, activated sludge treatment plant designed for a peak daily flow of 280,000 gpd with an effective operating treatment range is 20,000 to 500,000 gpd. From the equalization tank, wastewater is directed to two parallel 54,000 gallon aeration tanks. After optimum aeration, wastewater gravity feeds to four 7,200 gallon clarifiers. Clarified water then gravity drains through a Dual Sand filtration unit consisting of two continuous backwash units connected in series, and then to wet well. Setttable solids are removed from each clarifier by a 4-inch air lift pump and stored in a 32,000 gallon digester. Filtered water is chemically treated after filtration and discharged to a nearby stream.

**Town of Owego Wastewater Treatment Plant**

Project cost \$4,000,000; estimated completion December 1998. This wastewater treatment facility project encompasses the upgrade of the 2.0 mgd plant including the planning, design and construction of the building. The project involves treatment of a high strength industrial waste

similar to milk in its organic content and ability to consume oxygen. Our firm has a key role along with the Town, Hadco Corporation and NYSDEC in bringing the project in on budget. Mr. Suozzo provided structural, geotechnical, process, project management, and detailed design.

Prior to forming Delaware Engineering, Mr. Suozzo held the following professional positions:

***Engineer, NYS Department of Environmental Conservation, Syracuse NY***

Primary responsibility included oversight of more than thirty wastewater plants in eight central New York State counties. Complete responsibility for design review, stream standards, enforcement, budget, O & M program, troubleshooting of facility problems and administration of construction grants.

***Assistant Chief Operator, City of Cortland, Cortland, NY***

All aspects of treatment plant operation including such areas as supervision, budget, process, maintenance, scheduling, lab testing and design.

***Project Engineer, Stearns & Wheeler Engineers, Cazenovia, NY***

Major responsibilities centered around wastewater projects such as facility's reports, design, construction administration, process control, sewer repair and plant evaluation.



**EXPERIENCE PROFILE:**

Ms. Suozzo has over twenty years of engineering expertise in environmental and civil disciplines with emphasis in water and wastewater treatment processes, their associated physical facilities and regulatory compliance. She is the owner of Delaware Engineering, P.C., a consulting engineering firm specializing in environmental and civil projects for municipal and private clients. Typical projects include, but are not limited to, environmental studies, O & M manuals and municipal buildings from design phase through job inspection to completion.

**EDUCATION:**

B.S. Environmental Engineering, Rensselaer Polytechnic Institute

**CERTIFICATIONS:**

Professional Engineer, New York  
Sewage Treatment Plant Operators Training, Syracuse University  
Groundwater Short Courses, Cornell University

**PROFESSIONAL AFFILIATIONS:**

American Water Works Association  
Water Environment Federation

**PROJECT EXPERIENCE:**

**Delaware Engineering, P.C.**

**Off Site Utilities Design – DASNY – Norwich CIT**

Ms. Suozzo provides principal review for the design the off site utilities at the Norwich CIT, a DASNY administered project. The project, which was bid in May 1999, involved the preparation of plans and specifications for the off site wastewater facilities including pumps and transmission lines. (1999)

**Village of Stamford Water System Improvements**

Funded by SRF funds, this project is currently underway to replace over 6000 linear feet of century old distribution lines. Other elements including the addition and replacement of system hydrants and valving, rehabilitation of the 1.5 mg water storage reservoir, renovation to the existing surface water supply reservoir and addition of a filtration system for treatment of that surface supply. Once the filtration portion of the project is completed approximately 300,000 gpd supply redundancy will be added to this community of 1200. Ms. Suozzo provided process design for this project. (4/98-12/98)

**Wastewater Treatment DualSand™ Pilot Studies, Delhi and Stamford, New York**

Completed in June 1995, the Village of Delhi DualSand™ Pilot Study was the first of a series of advanced wastewater treatment pilot projects in concert with NYCDEP. The successes realized

in Delhi and followed by continued achievements in Stamford in June 1996 lead to the final study conducted in Stamford and completed in November of 1997. Results are significant to the necessary upgrade of the 105 or more West of Hudson Watershed WWTP facilities and will lead to satisfaction of the regulatory requirements stipulated by the Watershed Memorandum of Agreement. Ms. Suozzo provided process design for these projects. (12/94-11/97)

**Village of Cooperstown Water Filtration Upgrade**

In an effort to comply with the SDWA regulations, Delaware provided design of a new water filtration system that was incorporated into an historic building. The project involved pilot testing of the Wheelabrator Trident package mixed media filter, clean filtration, controls, process control, chemical treatment, instrumentation, structural, and telemetry. The project cost was \$1,600,000 for this 1 MGD facility. Ms. Suozzo provided process and structural design for this project. (10/94-11/96)

**Village of Walton Wastewater Treatment Plant Upgrade**

Project cost \$3,000,000; completed September 1992. This 1.1mgd facility was under a NYSDEC Consent Order and NYCDEP scrutiny for SPDES Permit non-compliance. It is the largest WOH WWTP and the closest to the Cannonsville Reservoir. This facility serves a community of 3326 and receives approximately 80% of its loading from Kraft Foods, a major area employer. The upgrade included the design of a biological system more compatible with the variable dairy waste stream, additional capacity and improved sludge management facilities. Plant automation was essential to the successful completion of this project. The system design necessitated the integration of milk waste from Kraft Foods along with the unique operation and design requirement that waste of this type demands. Delaware Engineering was involved in all aspects of the pretreatment of Kraft waste and the subsequent operational changes needed to handle the modified load. Ms. Suozzo provided process design for this project. (5/91-9/92)

**Village of Cooperstown Wastewater Treatment Plant**

Project cost of \$1,000,000; completed 1989. The purpose of this upgrade was to remove ammonia. The plant was originally a trickling filter facility that could not remove NH<sub>3</sub> and was in non-compliance. The project was finished under \$1,000,000 and has maintained compliance since completion of the upgrade. Ms. Suozzo provided process design for this project. (1989)

Prior to forming Delaware Engineering, Ms. Suozzo held the following professional positions:

***Engineer***

***NYS Department of Environmental Conservation, Syracuse NY***

Major responsibilities in State's Pure Waters Program; experience also in Air Resources and Solid/Hazardous Waste programs. Activities have included: complaint investigation and resolution, industrial plant inspections to determine need for and/or compliance with wastewater discharge permits, water quality monitoring (ground and surface waters), data interpretation and report preparation, representing Department in legal discussions with polluters, drafting Implementation Report pursuant to Regional 208 planning requirements.

***Engineering Coordinator***

***Hoffman Air and Filtration, Syracuse, NY***

Responsible for coordinating activities among sales, engineering, and production groups for this manufacturer of pollution-control equipment.

***Production Scheduler***

***Columbia Mills, Minetto NY***

Established schedules for four-operation production line which fed various other plant operations. Direct interaction with department managers, foremen and machine operators.

***High School Instructor***

***Mexico Academy and Central School, Mexico NY***

Teaching Regents Biology and German to high school students.

***EXPERIENCE PROFILE:***

Mr. Kerzic's background includes work as a senior consulting engineer, communicating and ensuring compliance with engineering guidelines and practices; reviewing and overseeing the technical quality of engineering projects; managing select engineering projects; and providing final review and certification of engineering documents. Mr. Kerzic is a licensed engineer with more than 20 years of experience as a civil and environmental engineer in both government and as an engineering consultant. He has managed numerous water and wastewater treatment projects, hazardous and solid waste projects, including site investigations, feasibility studies, remedial design (RD), and operation and maintenance.

***EDUCATION:***

BS, Civil and Environmental Engineering, Clarkson University, 1981  
BS, Biology, Syracuse University, 1979  
Groundwater Pollution and Modeling, Princeton University, 1985  
Construction Cost Estimating and Bidding, Rensselaer Polytechnic Institute, 1984  
Remediation Specialist Training, Fluor Daniel GTI, 1997

***CERTIFICATIONS:***

Professional Engineer – New York and West Virginia  
OSHA 40-Hour Hazardous Waste Activities Training  
OSHA 8-Hour Refresher for Hazardous Waste Activities (annual)  
OSHA 8-Hour Management/Supervisory Training  
OSHA Construction Safety and Awareness Training

***PROFESSIONAL AFFILIATIONS***

American Society of Professional Engineers  
National Society of Professional Engineers  
New York State Society of Professional Engineers  
Hazardous Materials Control Research Institute

***PROJECT EXPERIENCE:***

**Project Manager, Water Distribution and Storage System, Town of Amsterdam, New York (4/00 – present)**

Mr. Kerzic has recently completed the design of a water distribution system extension and water storage tank installation for the Town of Amsterdam, New York. This project has involved all aspects of planning and design, including the procurement of regulatory permits and approvals, procurement of project funding, and development of detailed design documents.

**Project Manager, Water Treatment and Storage System, Village of Fort Edward, New York (6/00-present)**

Mr. Kerzic is currently involved in the planning and design of a new water filtration plant and storage facilities for the Village of Fort Edward, New York. To date, this has involved conducting a pilot test of the planned filtration technology, preparation of engineering reports and documents necessary to justify project funding from the New York State Environmental Facilities Corporation, and preparation of draft design documents.

**Project Manager/Engineer, Water Supply/Treatment/Distribution and Wastewater Collection/Treatment/Disposal, Crossroads Ventures, Highmount, New York (09/99-present)**

Mr. Kerzic is currently investigating the feasibility of water supply and wastewater collection for a four-season resort community in the Catskill Mountains. The proposed development is within New York City's drinking water watershed and is subject to strict regulations, particularly with regard to wastewater treatment and discharge. The feasibility study will result in the preparation of water and sewer reports for an environmental impact statement, and will lead to the development of detailed engineering plans and specifications.

**Project Manager/Engineer, Wastewater Handling Systems, State University of New York College at Cobleskill and State University of New York College at Morrisville, New York, (10/99-5/00)**

The handling of wastewater generated at livestock facilities at two of the State University's Colleges is the subject of Mr. Kerzic's management and design efforts. The colleges are planning to construct new livestock facilities, each requiring a specialized wastewater handling system. Upon completion of project planning, Mr. Kerzic will provide detailed design plans and specifications for the wastewater handling systems at both colleges.

**Project Manager/Engineer, Municipal Wastewater Treatment Plant, Owego, New York (9/98 to present)**

Managed and engineered modifications to an existing 1-MGD sanitary wastewater treatment plant. Modifications entailed a complete change to the aeration system in two aeration basins to change from mechanical mixers/aerators to a fine bubble diffused air system. The project entailed the preparation of all engineering documents including design report, drawings and specifications for the aeration piping, blowers and blower building, including process, structural, electrical and HVAC design

**Project Manager, Groundwater Treatment System Design/Build, Industrial Facility, Middleport, NY (8/97 to 8/98)**

Managed the design and installation of a groundwater treatment system to remove methylene chloride and acetone from groundwater. The project is part of the remediation of a federal superfund site on which pesticide and herbicide contamination has been discovered in the subsurface soil and groundwater. The treatment system was designed to require a minimal cost to operate and maintain.

**Project Engineer, Groundwater Recovery, Treatment and ReInjection System Design/Build/Operation and Maintenance, American Thermostat Site, South Cairo, NY (3/97 to 6/98)**

Certifying engineer responsible for the design of a groundwater collection, treatment and reInjection system at a federal Superfund site that is the location of a former thermostat

manufacturer. The site conditions posed many difficulties to the ability to effectively collect, treat and reinject groundwater. The design criteria required that all of these difficulties be satisfied in the system design while also considering operation and maintenance costs.

**Project Manager, Sanitary Sewer System Design for City of Rome, NY (7/95 to 7/96)**

Managed the preparation of design documents for the extension of the sanitary sewer system to serve residents in two areas of this Upstate New York municipality. The design included both gravity sewers, forcemains and pumps stations.

**Project Engineer, Industrial Wastewater Pre-Treatment System Planning and Design, Glens Falls, NY (2/89 to 6/90)**

Prepared the design of modifications to an industrial wastewater pre-treatment system to accommodate changes in plant operation and wastewater characteristics. Modifications included new filtration and chemical feed systems along with associated meters and other appurtenances.

**Project Manager; Facility Planning, Design and Construction Oversight, Various Municipal Wastewater Treatment Projects; Wyoming, Allegany, Cattaraugus, Saratoga, Essex and Clinton Counties; NY (9/81 to 9/83)**

Managed several sewer collection, conveyance and treatment projects for the New York State Department of Environmental Conservation, under the USEPA Construction Grants Program. Activities included review and approval of Facility Plans, Design Plans and Specifications, Architectural/Engineering contracts, and construction change orders. Also included was the periodic inspection of construction activities for sewer lines and sewage treatment plants.

**Project Manager, Planning, Design and Installation of Wastewater Collection and Storage System, Town of Conklin, NY (6/94 to 6/96)**

Managed a project to design and install a collection and storage system for wastewater from a closed municipal landfill. The system included collection piping and storage tank with secondary containment, filtration, pumps, frost prevention equipment, and automated controls.

**Project Manager, RI/FS, RD/RA Oversight and Operation and Maintenance, Philmar Electronics Site, Schuyler Falls, NY (11/90 to 6/96)**

Managed variety of remedial activities at this salvage yard in northern New York. Funding for the project came from the NYSDEC through the State Superfund Program and has entailed an RI/FS, design of a groundwater collection, treatment and recharge system as well as oversight of the installation of these systems. Following installation, the system was operated and maintained on a full-time basis using automated systems and alarms to minimize operation and maintenance costs.

**EXPERIENCE PROFILE:**

Ms. Bianconi acts as a project manager and in the capacity of a project planner developing technical reports, investigating regulatory issues and securing permits/compliance, devising funding strategies and writing grants, and in crafting economic development strategies. Ms. Bianconi is experienced with municipal water and wastewater systems, water treatment technology pilot projects, capital improvements planning, environmental impacts, and telecommunications infrastructure.

**EDUCATION:**

MRP Studies, Regional Planning and Urban Policy, State University of New York at Albany  
BA, State University of New York at Geneseo, 1989

**PROFESSIONAL AFFILIATIONS**

American Planning Association  
American Water Works Association

**PROJECT EXPERIENCE:**

**Community Planning and Permits, Village of Hunter, New Infrastructure Program, Wastewater Facilities Engineering, Hunter, New York.**

As a Project Planner, Ms. Bianconi is responsible to ensure the coordination of activities associated with the community planning, design, and regulatory approvals for the construction of a new publicly owned treatment works. In this capacity, she has prepared and submitted a SPDES permit application, coordinated workshops on the sewer system, prepared draft sewer use and sewer rent laws, prepared supplements to the Environmental Impact Statement for the project, coordinated project review with the State Historic Preservation Office and assists the Village with program reporting requirements.

**Project Planner, Waterview Hills Nursing Facility, Wastewater Treatment Plant Upgrade, North Salem, Westchester County, New York**

For this project, which involves the upgrade of an existing wastewater treatment plant to meet NYC Watershed Rules and Regulations, Ms. Bianconi assisted with the preparation of a Facility Plan describing proposed improvements and prepared Special Use and Site Development Plan permit applications, as well as documentation to support the State Environmental Quality Review of the project.

**Project Planner, Mountain View Estates, Wastewater Treatment Plant Upgrade, Jewett, Greene County, New York**

Ms. Bianconi worked in conjunction with the Project Engineer to determine and evaluate alternatives to a conventional full upgrade to add tertiary treatment to a non-complying wastewater facility. Project challenges included severe seasonal variations in wastewater flow

and the lack of owner-controlled land for construction of facilities to meet NYC Watershed Rules & Regulations. Her efforts included site evaluation for the location of subsurface disposals systems, with an emphasis on slope, soil conditions, land use, and existing topography.

**Project Planner, Town of Guilderland, State Pollution Discharge Elimination System (SPDES) Permit Modification, Albany County, New York**

As the Project Planner, Ms. Bianconi developed a basis of design report in conjunction with the Project Engineer to support modification of an existing 2.6 MGD SPDES permit to accommodate additional wastewater flows up to a total of 4.0 MGD. The SPDES permit modification was conducted in support of capital improvements and process changes mandated by a NYSDEC Consent Order based on a Comprehensive Performance Evaluation.

**Project Manager, New York State Office of General Services, Site Evaluations and Study, Various Locations, New York**

Ms. Bianconi manages the conduct of site evaluations and study preparation as directed by OGS staff. Site evaluations include data collection and site analysis for all site utilities including water supply, wastewater treatment and disposal, power and telecommunications facilities, stormwater impacts, flood plain locations and impacts, and regulatory influences. State and local regulatory agencies are contacted for pertinent records and site visits are conducted. Reports are prepared and forwarded for inclusion in site larger scale evaluation reports that are inclusive of demographic and other data. Seven sites have been evaluated to date.

**Project Planner, Water Improvement Project, Village of Hunter, New York.**

The Village of Hunter is engaged in a \$2.9 million water improvement project that involves the acquisition of several private water systems and the design and construction of water treatment facilities as well as distribution system improvements. Ms. Bianconi assisted the Village in negotiations to purchase the private water companies and in obtaining Public Service Commission approval of the sales. In addition, she prepared all documents and applied for all necessary regulatory approvals.

**Project Manager, Water Supply Permit Modification and Improvements to the Pine Hill Water Company, Town of Shandaken, New York**

Ms. Bianconi provided guidance to a private water company which has served a residential hamlet in the Catskills since 1893. Efforts included preparation of an application to modify the company's water supply permit from the NYSDEC to match current assets and practices of the water company, meetings with the NYSDOH and Ulster County DOH regarding necessary improvements, preparation of funding application to the NYSEFC for DWSRF Hardship grant and loan, and rate discussions with the NYS Public Service Commission. The grant package awarded to the water company by the EFC was the first grant to be awarded to a private water supply in the State.

**Planner, Route 30 and Wallins Corners Road Water District Formation, Town of Amsterdam, New York**

The provision of water service to the area of Route 30 and Wallins Corners Road in the Town of Amsterdam necessitated the formation of a new Town Water District. Ms. Bianconi worked with



the project engineer, town officials, and residents in developing by petition and approving the formation of the new water district. Her efforts included public presentations, rate formula development and filing with the Office of the State Comptroller.

**Project Manager, Chemical Bulk Storage Audit and Environment Database Development, Sanmina Corporation, Owego, New York**

Ms. Bianconi worked extensively with Sanmina environmental staff to compile an audit and Spill Prevention Report for this large computer chip manufacturing facility. Efforts included developing an inventory of all CBS tanks on site, evaluation of the application of NYS Chemical Bulk Storage regulations, preparation of CBS registrations, development of an environmental data base for tracking all CBS tanks, preparation of a Spill Prevention Report and final CBS Audit for review by NYSDEC.

**Assistant Project Manager, Dormitory Authority State of New York, New York State Office of Mental Retardation and Developmental Disabilities Camp Harriman Wastewater Treatment Plant Upgrade, Jewett, New York**

Located within New York City's watershed, the Camp Harriman wastewater treatment plant was subject to upgrade to meet watershed regulations. The existing 20,000 gpd plant sand filter plant will be upgraded to a subsurface treatment facility. In addition, an infiltration and inflow corrective action plan was developed and implemented. Ms. Bianconi acts as the Assistant Project Manager for this project, providing coordination between DASNY project management and the consultant design team as well as detailed project accounting. She also provides regulatory review for the activities on the project to ensure compliance with Watershed Rules and Regulations.

**Planner, Natural Gas Line Feasibility Study, Northstar Energy, Inc., Essex County, New York**

As a project planner, Ms. Bianconi is assisting with land use analysis, regulatory authority assessments, and permitting requirements to assess the feasibility of a natural gas pipeline extension from Plattsburg to Ticonderoga. The potential routes being investigated involve lands under the jurisdiction of both the New York State Department of Environmental Conservation and the Adirondack Park Agency. Ms. Bianconi will also provide analysis of the PSC Article 7 process for the feasibility study.

**Planner, Ogden Water Systems, Inc. Tampa Bay Regional Surface Water Treatment Plant, Tampa Bay, Florida**

Ms. Bianconi provided technical writing, regulatory review and project coordination for the development of 30% conceptual design documents utilized in an evaluation of Design/Build/Operate privatization for a new 60 MGD surface water treatment plant.

**Planner, Belleayre Development, Crossroads Ventures, Ulster County, New York**

Delaware Engineering is providing water supply and wastewater disposal reports to be included in the Draft Environmental Impact Statement for a multi-location, four-season resort development in the Catskill Mountains. Ms. Bianconi is assisting with project coordination and provides review of conceptual designs in light of regulatory requirements. The project is located

within the New York City Watershed and is under the permitting authority of the New York City Department of Environmental Protection and State of New York Departments of Health and Environmental Conservation, as well as county and municipal entities.

**Planner, Sun Castle Development, Lake George, New York**

Ms. Bianconi assisted in the preparation of wastewater disposal system preliminary design documents and SPDES permit application for this time share/hotel development.

**Planner, City of Glens Falls Master Plan, Glens Falls, New York**

As Project Manager for the Infrastructure Assessment and Capital Improvement Plan for the City of Glens Falls Master Plan, Ms. Bianconi directed field inventory, engineering analysis, report generation and the development of a capital improvement plan in support of a city wide economic/industrial development initiative.

**Planner, Delaware County Comprehensive Strategy for Phosphorus Reductions, Delaware County, New York**

As a participant in the Scientific Support Group responsible for the development of the Delaware County Comprehensive Strategy for Phosphorus Reductions, Ms. Bianconi provided technical consulting on issues including water quality, alternatives evaluation, environmental impact, economic impact and regulatory requirements. The Comprehensive Strategy is prepared under requirement and review by the USEPA, NYSDEC and NYCDEP.

**Project Administration, Regulatory Upgrade to meet Rules and Regulations for the Protection from Contamination, Degradation and Pollution of the New York City Water Supply and Its Sources, Village of Delhi Wastewater Treatment Plant**

Ms. Bianconi provides regulatory review and project administration for this project which incorporates two industrial wastewaters into the Delhi municipal wastewater treatment plant necessitating a complete plant expansion and upgrade. The upgrade of this facility will allow the two local industries to expand production; the existing trickling filter WWTP, one of the few remaining in the Watershed, will be replaced by an extended aeration/RBC/tertiary filtration system. Our firm has been involved in all phases of project development and planning and has conducted two treatability studies of the industrial influents to develop the best treatment train. The WWTP upgrade will include complete plant automation and will comply with all NYC Watershed regulations relative to advanced wastewater treatment, comparable to potable water requirements.

**Planner, U.S. Department of Housing and Urban Development, New York Canal Corridor Initiative Guidebook.**

Ms. Bianconi provided technical writing and editing for a Guidebook designed to be distributed to over 100 municipalities that will receive over \$150,000,000 in HUD Small Cities Grants as a result of the New York Canal Corridor Initiative Guidebook. Ms. Bianconi contributed to sections covering hazardous materials, state and federal permitting, and accessing federal funding.

**Project Coordination, New York State Wireless Telecommunications Project, Crown Communications New York, Inc.**

Acting as Project Coordinator, Ms. Bianconi managed field activities for the inventory of over 250 state-owned wireless telecommunications facilities and 20 state-owned buildings, as well as a raw land survey covering the I-87 corridor from Plattsburg to Glens Falls. She developed field inspection protocols, a database for information management, and provided interface with state agency officials.

**Planner/Technical Writer, State Grants, Saratoga County Economic Development Corporation.**

On an on-going basis, Ms. Bianconi provides grant and technical writing services to Saratoga County. She has written numerous grants for state funding, including a light rail project, economic development corridor project, and the rehabilitation and adaptive reuse of a former knitting mill.

**Planner, Enterprise New York Economic Development Corridor Initiative, Saratoga County Economic Development Corporation.**

On behalf of over 25 public and private agencies, Ms. Bianconi is preparing a business plan and economic development study for the I-87 corridor extending from Montreal to New York City. In the course of this work, Ms. Bianconi has provided liaison between the Canadian government, the office of the Governor of the State of New York, Empire State Development Corporation, the Federal Highway Administration, and various elected representatives within the corridor. The project is on going.

***HARTGEN ARCHEOLOGICAL ASSOCIATES, INC.***  
***CULTURAL RESOURCE SPECIALISTS***

**1744 Washington Avenue Extension • Rensselaer, New York 12144**

**STATEMENT OF QUALIFICATIONS**

**2002**

*The Leader in Cultural Resource Management for 25 Years*

*An ACRA member firm*

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[www.hartgen.com](http://www.hartgen.com)**

## **COMPANY BACKGROUND**

In 1973, Karen S. Hartgen, A Registered Professional Archeologist (RPA), formed Hartgen Archeological Associates, Inc. (HAA, Inc.) to provide a full range of archeological services for all phases of cultural resource management. Under her direction, the company has grown to be the largest privately-owned archeological firm in New York State and a recognized leader in the field. The company provides a full range of services which lead clients through Section 106 of the National Historic Preservation Act, as well as the various state environmental and archeological protection acts. HAA, Inc. has extensive experience conducting cultural resource projects for federal, state, municipal, and private clients.

Over the last 29 years, Hartgen Archeological Associates, Inc. has completed more than 2,000 cultural resource studies throughout New York State and New England. Our experience encompasses highway, bridge, canal, utility, landfill, subdivision, commercial, industrial park, State Education, and cemetery projects, as well as various specialized cultural resource projects. Appendix I provides a representative list of projects that HAA, Inc. has completed throughout the northeast. Our clients include engineering firms, private organizations, museums, and municipal and state governments (Appendix II).

## **REGULATORY COMPLIANCE AND CERTIFICATION**

Hartgen Archeological Associates, Inc. qualifies both as a Women's Business Enterprise (WBE) and a Disadvantaged Business Enterprise (DBE) in New York, New York City, New Jersey, Vermont, Connecticut, New Hampshire, Pennsylvania, Delaware, Massachusetts, Maine, and Maryland.

In addition, our company is certified as a Women's Business Enterprise (WBE) by the Empire State Development Corporation, the Port Authority of New York and New Jersey, the Metropolitan Transit Authority, the New Jersey Transit Authority, the New York State Thruway Authority, and the New York City School Construction Authority.

Karen Hartgen, MA, is a Registered Professional Archaeologist (RPA), and her senior staff members are qualified 36 CFR 61 archeologists. Several members of the staff have completed National Historic Preservation Act Section 106 training and Occupational Safety and Health Administration (OSHA) training, and we have staff certified in health and safety operations at hazardous materials (HAZMAT) sites, and in the Native American Graves Protection and Repatriation Act (NAGPRA).

## **CULTURAL RESOURCE SERVICES**

HAA, Inc. provides a range of clients with cultural resources services in New York, Vermont, Connecticut, New Hampshire, Massachusetts, and New Jersey. The company provides the following types of cultural resource, historic, preservation, and environmental services:

- Phase IA Literature Review and Archeological Sensitivity Assessment
- Phase IB Archeological Field Reconnaissance Survey
- Phase II Archeological Site Evaluation
- Phase III Mitigation Plan and Archeological Data Recovery
- National Register eligibility synopses
- Architectural history
- HABS/HAER documentation
- Historical deed and document research
- Historical map research and historic map overlays
- Viewshed analysis
- Artifact conservation and curation
- Faunal analysis
- Human skeletal analysis
- Audiovisual documentation
- Electronic Total Station field surveys
- Detailed CAD, GPS, GIS, and ArcView mapping
- Development of archeological research designs and master plans
- Design and presentation of public information signs, pamphlets, and exhibits
- Writing and publication of research reports including presentation of results at scholarly and public meetings where appropriate

Historic archeological studies completed over the years include residential (urban and rural), industrial (pottery, brick yards, sawmills, gristmills, paper mills), transportation (railroad, highway, canal), military (forts and battlefields), cemetery, recreational (Adirondack Great Camp), religious (Friends Meeting House, Episcopal Church), and educational (rural schoolhouse) contexts. Precontact sites studied by HAA, Inc. have ranged from the early Archaic through the contact period and from small campsites and quarries to village sites and mortuary contexts.

## **COMPANY FACILITIES**

Hartgen Archeological Associates, Inc. maintains its corporate headquarters in Rensselaer, New York. A satellite office in Buffalo offers archeological services to western New York, and Hartgen East, the company's branch office in Putney, Vermont, extends our ability to provide quality archeological services throughout New England. With our comprehensive inventory of standard archeological equipment and more than two dozen archeologists, HAA, Inc. can field several crews simultaneously.

HAA, Inc. applies computerized database management and document publishing technologies to cultural resource projects. HAA, Inc. utilizes the most widely used CAD program, AutoCAD by Autodesk, for survey data processing and technical drafting. HAA, Inc. uses a Nikon Top Gun Electronic Total Station DTM 310 that allows direct data input into our CAD software. HAA, Inc. also uses ArcView 3.1 GIS software for data processing. HAA, Inc. now has GPS capability with the Magellan Pro-Mark X. With extensive digital data sets of statewide environmental, precontact, and historic resources, we are able to offer our clients efficient and cost-effective products to meet their cultural resource needs.

The Hartgen Archeological Associates Laboratory in North Greenbush, New York, processes, stabilizes, and documents artifact collections made by the corporation. The laboratory staff registers approximately 70 collections per year. Collections in HAA, Inc.'s temporary holdings originate from all over New York and New England and span 10,000 years of human habitation. We also maintain a reference collection for staff training and educational outreach, and our laboratory is open to consulting scholars and the general public as well. HAA, Inc. provides inventory, illustration, curation, and artifact conservation services for other collecting institutions and private clients. Our staff is available for consultation on artifact identification, exhibit planning, and curriculum development.

### **THE HARTGEN TEAM**

HAA, Inc. is composed of a well-qualified, experienced professional staff who have worked together as a team for many years. This continuity of experience is a great advantage for conducting quality controlled research in an efficient and professional manner.

The staff's individual professional backgrounds and their shared experiences in the field are the foundation of HAA, Inc. growth and success. In addition to HAA, Inc. full-time personnel, our 30 years of operation have enabled us to establish an extensive network of qualified specialists who contribute their expertise on a project-by-project basis.

Our diligent staff and our ability to interact effectively with our clientele, state, and federal agencies ensure that each project proceeds through the review process successfully and that all phases of the project are completed in a timely and efficient manner.

### **About our Principal**

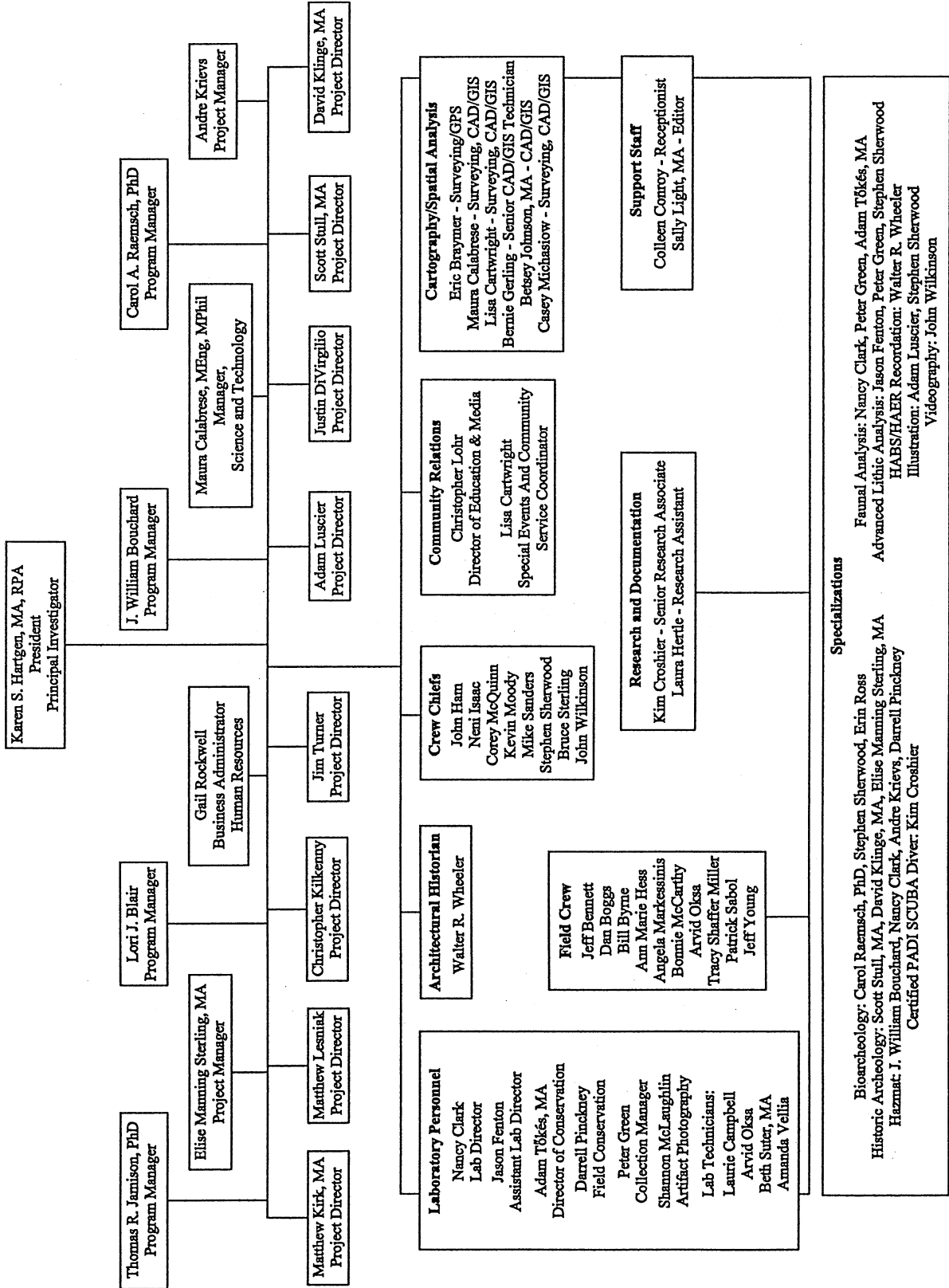
As the President and the Principal Investigator of HAA, Inc. **Karen S. Hartgen, MA, RPA**, has been an active participant in a variety of municipal and professional organizations for more than 25 years. She has been Chair of the North Greenbush Environmental Advisory Council; a member of the Rensselaer County Environmental Management Council; a trustee of the Rensselaer County Cooperative Extension; the North Greenbush Town Historian; President of the New York State Archaeological Association; and President of the New York Archaeological Council. Ms. Hartgen also serves on the boards of archeological and historical associations including the Rensselaer County Historical Society and the Greenbush Historical Society.

Among the more complex projects that Ms. Hartgen has managed are the 300-mile Marcy South Transmission Line project, the Route 9A Reconstruction Project in New York City, and several large urban projects in Albany and Schenectady where seventeenth and eighteenth century Dutch and English colonial sites were examined.

Her diversified undertakings include overseeing the development of a public brochure for the Iroquois Gas Transmission System pipeline; designing signs for bikeways along the Champlain Canal; preparing the cultural resource section of the award-winning New York State Canal Recreation Way Plan; and preparing the Cultural Resource Needs Assessment for the Champlain Basin.

As a result of her active personal concern and professional interest in New York State environmental regulatory affairs, Ms. Hartgen has a comprehensive understanding of the New York State Environmental Quality Review Act (SEQRA), Section 14.09 of the New York State Historic Preservation Act (SHPA), Vermont's Act 250, Section 106 of the National Historic Preservation Act (NHPA), and other pertinent regulatory legislation. She completed Section 106 training in Washington, D.C. and has experience and training in the Native American Graves Protection and Repatriation Act. She attended a seminar on the British Influence on American Ceramics (1750-1900) at Eastfield Village and a workshop/seminar on the application of GIS to statewide models of archeological sensitivity in Vermont. Recently she attended the seminar Beyond Staffordshire at Eastfield Village.





**Specializations**

Bioarcheology: Carol Raemsch, PhD, Stephen Sherwood, Erin Ross  
 Historic Archeology: Scott Stull, MA, David Klinge, MA, Elise Manning Sterling, MA  
 Hazmat: J. William Bouchard, Nancy Clark, Andre Krieves, Darrell Pinckney  
 Certified PADI SCUBA Diver: Kim Croshtier

Faunal Analysis: Nancy Clark, Peter Green, Adam Tórkés, MA  
 Advanced Lithic Analysis: Jason Fenton, Peter Green, Stephen Sherwood  
 HABS/HAER Recordation: Walter R. Wheeler  
 Illustration: Adam Luscier, Stephen Sherwood  
 Videography: John Wilkinson

**APPENDIX I: SAMPLE PROJECTS BY STATE**

Hartgen Archeological Associates, Inc. has experience working in most counties of New York State and Vermont, and in Connecticut, New Hampshire, and Massachusetts. This experience includes federal and state projects, and projects for local municipalities, private companies, and developers. The following list includes some of HAA, Inc.'s larger projects by state.

**NEW YORK**

***Iroquois Gas Transmission System, Cultural Resource Services, Northern and Central New York.***

**Agency/Regulation:** FERC/Section 106

**Client:** Iroquois Gas Transmission System, LP Contact: Tim Barnes  
One Corporate Drive, Suite 600  
Shelton, Connecticut 06484  
(203) 944-7023

***NAGPRA Skeletal and Artifact Inventories. Ripley Site Precontact collection, New York State Museum, Albany, New York.***

**Agency/Regulation:** Department of the Interior/NAGPRA, 43 CFR Part 10

**Client:** New York State Museum Contact: Lisa Anderson  
Anthropological Survey  
3122 Cultural Education Center  
Albany, New York 12230  
(518) 485-2020

***New York Power Authority, FERC Relicensing Project, St. Lawrence River Valley, St. Lawrence County, New York.***

**Agency/Regulation:** FERC/Section 106

**Client:** New York Power Authority Contact: William V. Slade  
123 Main Street  
White Plains, New York 10601  
(914) 681-6405

***New York State Canal Recreationway Plan for the New York State Thruway Authority, in association with Beyer Blinder Belle Consortium.*** Received the Juried Excellence on the Waterfront Top Honor Award in 1995 from the waterfront center. Also the 1996, outstanding planning award for comprehensive planning in a large jurisdiction of the American Planning Association.

**Agency/Regulation:** New York State Thruway Authority/Management Plan

**Client:** Beyer Blinder Belle Contact: Jack Beyer  
41 East 11th St.  
New York, New York 10003  
(212) 777-7800

**SUCF Parking Structure, Phase I-III Archeological Investigations, Albany, New York**

**Agency/Regulation:**

**Client:** SUNY Construction Fund  
P.O. Box 1946  
Albany, New York 12201  
(518) 443-5763

Contact: Jim Galarneau

**New York State Department of Environmental Conservation Office Building, 625 Broadway, Phase II and III Archeological Investigations, Albany, New York.**

**Agency/Regulation:** SEQR

**Client:** The Picotte Companies  
20 Corporate Woods Blvd.  
Albany, New York 12211  
(518) 465-4747

Contact: Nancy Carey

**New York State Department of Transportation/New York State Museum, State Education Department, Term Contract for Cultural Resource Services.**

**Agency/Regulation:** FHWA, NYSDOT/Section 106

**Client:** New York State Education Department  
Cultural Resources Survey Program  
New York State Museum  
3122 Cultural Education Center  
Albany, New York 12230  
(518) 474-3895

Contact: John Hart

**Route 9A Reconstruction Cultural Resource Assessment, New York City.**

**Agency/Regulation:** FHWA/Section 106

**Client:** NYSDOT  
New York State Office Campus  
1220 Washington Ave.  
Albany, New York 12232  
(518) 457-3690

Contact: David Finklestein

**State University of New York 600-Car Parking Garage, Phase I Archeological Investigation, Albany, New York.**

**Agency/Regulation:** SEQR

**Client:** SUNY Construction Fund  
P.O. Box 1946  
Albany, New York 12201  
(518) 443-5509

Contact: John Saxton

*State Comptroller's Office Building, 110 State Street, Phase III Archeological Investigation, Albany, New York.*

**Agency/Regulation:** SEQR

**Client:** Columbia Development Corporation      **Contact:** Richard Rosen  
30 Corporate Circle, Suite 101  
Albany, New York 12203  
(518) 862-9133

**VERMONT**

*Fox Run Golf Course, Phase I Archeological Investigation, Town of Ludlow, Windsor County, Vermont.*

**Agency/Regulation:** Vermont Act 250

**Client:** Stephen Durkee  
RR 1, Box 2374  
Killington, Vermont 05751  
(802) 422-9500

*Northeastern Rural Water Association, Various Projects for Safe Drinking Water Act Regulations, Multiple Counties.*

**Agency/Regulation:** Safe Drinking Water Act/Section 106

**Client:** Northeastern Rural Water Association      **Contact:** Elizabeth Walker  
RR1, Box 960  
Moretown, Vermont 05660  
(802) 244-7424

*Rutland State Airport Improvements, Phase I Archeological Investigation, Towns of Chittenden, Clarendon, Pittsford, and Rutland, Rutland County, Vermont.*

**Agency/Regulation:** FAA/Section 106

**Client:** URS Greiner      **Contact:** Gerald W. D'Amico  
P.O. Box 96  
Roxbury, Vermont 05669  
(802) 485-4735

*SVE Associates, Proposed Bike Paths, Phase IA and IB Cultural Resource Studies, Multiple Counties, Vermont.*

**Agency/Regulation:** FHWA, VAOT/Section 106, Vermont Act 250

**Client:** SVE Associates      **Contact:** Peter Boemig  
Professional Center  
P.O. Box 1801  
Brattleboro, Vermont 05301  
(802) 257-0561

*Vermont Agency of Transportation, General Design Services, Multiple Counties.*

**Agency/Regulation:** FHWA, VAOT/Section 106

**Client:** Vermont Agency of Transportation Contact: Duncan Wilkie  
133 State Street, Administration Building  
Montpelier, Vermont 05633  
(802) 828-3965

*Vermont Agency of Transportation, Repaving and Bridge Replacement Projects, Multiple Counties.*

**Agency/Regulation:** FHWA, VAOT/Section 106

**Client:** McFarland-Johnson, Inc. Contact: Rick Woitd  
171 Front Street  
PO Box 1980  
Binghamton, New York 13902  
(607) 723-9421

McFarland-Johnson, Inc. Contact: Jed Merrow  
10 Ferry Street, Unit 11, Suite 434  
Concord, New Hampshire 03301  
(603) 225-2978

Dubois & King  
Route 66, P.O. Box 339  
Randolph, Vermont 05060  
(802) 728-3376

*Vermont Yankee Nuclear Power Plant Proposed Office Building, Phase I Archeological Investigation,  
Town of Vernon, Windham County.*

**Agency/Regulation:** FERC/Section 106

**Client:** SVE Associates Contact: Peter Boemig  
Professional Center  
P.O. Box 1801  
Brattleboro, Vermont 05301  
(802) 257-0561

**NEW HAMPSHIRE**

*New Hampshire Department of Transportation, Various Cultural Resource Services.*

**Agency/Regulation:**

**Client:** New Hampshire Department of Transportation  
Bureau of Environment Contact: Elizabeth Hostutler  
John O. Morton Building #109  
1 Hazen Drive, P.O. Box 483  
Concord, New Hampshire 03302-0483  
(602) 271-3226

**CONNECTICUT**

*Iroquois Gas Transmission System, Cultural Resource Services, Western Connecticut.*

Agency/Regulation: FERC/Section 106

Client: Iroquois Gas Transmission System, LP Contact: Tim Barnes  
One Corporate Drive, Suite 600  
Shelton, Connecticut 06484  
(203) 944-7023

*Kimberly-Clark Corporation, Phase I and II Archeological Investigations, New Milford, Connecticut.*

Agency/Regulation: CHC/CEPA

Client: InteGreyted Consultants, LLC Contact: Peter Goutos  
9 Corporate Drive  
Clifton Park, New York 12065  
(518) 688-0050

**MASSACHUSETTS**

*Cultural Resource Reconnaissance Survey, Holyoke Hydroelectric Project, Application for New License in Competition with FERC Project No. 2004.*

Agency/Regulation: FERC/Section 106

Client: R.W. Beck Contact: David Hoopes  
2101 Fourth Avenue, Suite 600  
Seattle, Washington 98121-2375  
(206) 727-4614

**APPENDIX II: SAMPLE LIST OF CLIENTS**

**Federal**

Department of Defense  
Federal Aviation Administration  
Federal Energy Regulatory Commission  
Federal Highway Administration  
National Park Service  
Natural Resource Conservation Service

**State**

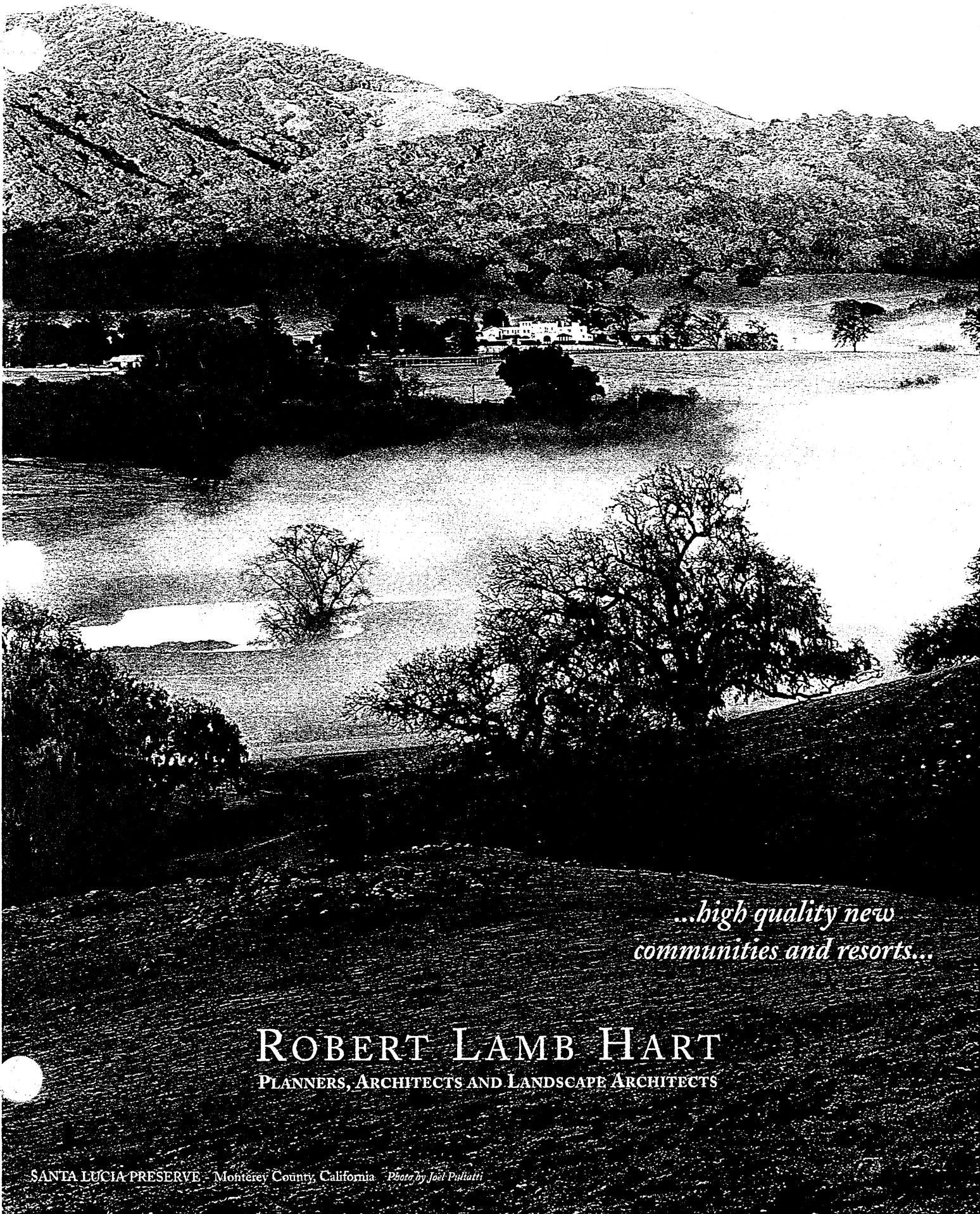
Dormitory Authority of the State of New York  
New Hampshire Department of Transportation  
New York Power Authority  
New York State Department of Transportation  
New York State Education Department  
New York State Office of Parks, Recreation and Historic Preservation  
New York State Thruway Authority  
State University of New York Construction Fund  
Vermont Agency of Transportation  
Vermont Division for Historic Preservation

Private

Albany Parking Authority  
Argus Architecture and Preservation  
Barton & Loguidice, P.C.  
Bergman Associates  
Beyer Blinder Belle  
BL Tethys, LLC  
Black & Veatch  
Black Drake Consultants  
Boswell Engineering  
Bovis Lend Lease  
Burley-Guminiak & Associates  
Camp, Dresser & Makee  
Carolyn Pierce, MA Consulting Archeologist  
Carter & Burgess  
Central Hudson Gas and Electric  
Clough, Harbour & Associates  
CNG Transmission Corporation  
Columbia Development Corporation  
Continental Placer  
Conway Lavelle & Finn LLP  
C.T. Male Associates  
Delaware Engineering, P.C.  
Detta Engineers, P.C.  
Dewkett Engineers  
Dewitt Enterprises  
Dewolff Partnership Architects, LLP  
DMS Consulting Services  
Dodson & Associates. PLLC  
Dubois & King  
Dufresne-Henry, Inc.  
Duri's Construction  
Earth Tech  
Edwards & Kelcey  
Environmental Design Partnership  
Environmental Engineering Associates, LLP  
Environmental Facilities Corporation  
Erdman, Anthony and Associates, Inc.  
F.S. Lopke Contracting  
Flint, Allen, White & Radley  
Florida Gulf Construction Company  
Foit-Albert Associates, P.C.  
Forcier Aldrich & Associates, Inc.  
Fort Ticonderoga  
Gannett Flemming  
Guertin Elkerton & Associates  
Harrison & Burrows Bridge Construction, Inc.  
HARZA Northeast  
Hawk Engineering, P.C.  
Hershburg & Hershburg  
The Howard Group  
InteGreyted Consultants, LLC  
International Paper  
Iroquois Gas Transmission System, L.P.  
Jarret Martin  
John G. Waite Associates  
John Milner Associates, Inc.  
Killam Associates, New England  
Kimberly-Clark Corporation  
Klienschmidt Associates  
LA Group  
Laberge Engineering and Consulting Group  
Lamont, VanDeValk, Buckman & Whitebeck  
Landscape Architectural Design Association  
Larson Engineers  
Lawler, Matusky, and Skelly Engineers  
Louis Berger Group, Inc.  
LRC, Inc.  
Malcolm Pirnie  
Mallin, Mendel & Associates  
McFarland-Johnson, Inc.  
Mead & Hunt  
M.J. Engineering  
Moutianside Development, Inc.  
National Resource Conservation Service  
New York State Electric & Gas Corporation  
NIGRO Companies  
Northeast Rural Water Association  
O'Brien & Gere  
OKEMO Mountain, Inc.  
Parish Weiner & Shuster, Inc.  
Parsons Brinckerhoff  
Pennoni Associates  
Picotte Companies  
Rescom Environmental Corporation  
Richard Grubb & Associates, Inc.  
Rudikoff and Associates  
Rust Environmental  
R.W. Beck  
Saccardi & Schiff  
The Saratoga Associates  
Saratoga Highrock Partners  
Scott Paper  
SEA Consulting, Inc.  
Shaffer Engineering  
Shuster Associates, Inc.  
Smith & Mahoney  
Sprint Spectrum, L.P.  
Stevens & Associates, P.C.  
SVE Associates  
Tectonic Engineering  
Telergy  
The Mangi Environmental Group, Inc.

TRC Mariah Associates, Inc.  
United American Energy Corporation  
United Development Corporation  
University Heights Association, Inc.  
URS Greiner  
UTRAX Corporation  
U.W. Marx  
Vollmer Associates, Inc.  
Wal-Mart Stores, Inc.  
Watts Engineers  
Whiteman Osterman & Hanna  
Whiting - Turner Contracting Company  
Wilber National Bank  
Wilbur Smith Associates





*...high quality new  
communities and resorts...*

**ROBERT LAMB HART**  
PLANNERS, ARCHITECTS AND LANDSCAPE ARCHITECTS

**ROBERT LAMB HART**

**Planners and Architects  
New York · San Francisco**

**10 East 40th Street  
New York, New York 10016  
212 683-5631 Fax 212 481-3768**

September 20, 1999

Fax: 914.688.6887

Mr. Dean Gitter  
Crossroad Ventures  
5340 Route 28  
Mt. Temper, NY 12457

Dear Dean:

As you requested, I am writing to give you a brief description of our firm along with examples of our resort master planning experience in environmentally sensitive areas.

**Our firm** is a group of about ninety land planners, architects and landscape architects with offices in New York, San Francisco and Vail. We specialize in the planning and design of new communities and resorts, particularly where a unique environment or a new kind of market requires innovative thinking. We have had assignments in all regions of the United States, in Europe, the Caribbean, and around the Pacific Rim.

**Our clients** have included some of the leading landowners and developers in the field, for example:

- Vail Resorts and Hines in Colorado
- Pebble Beach and The Irvine Company in California
- Walt Disney World and CSX in Florida
- Alexander & Baldwin and the Queen Emma Foundation in Hawaii
- The established east coast resorts at The Greenbrier and Sea Island
- Gleneagles Hotel Group in the Adirondacks and Hyatt in the Caribbean
- The Rockefellers and Donald Trump in New York

**Our projects** are frequently located in environmentally sensitive areas, and we typically work together with environmental scientists and engineers to understand the complex relationships of the natural environment before we begin our planning assignments. This group works together throughout the project to ensure that the master plan minimizes impacts to the environment both locally and regionally.

As planners and architects for major expansions at several **high-end ski resorts**, we've worked closely with some top mountain planners, environmental scientists and engineers to understand the unique and fragile environments of the alpine zone.

- At **Bachelor Gulch** in the Vail Valley, working with a Vail Resorts team, we prepared overall master plans for a complete new high-end ski-in/ski-out community in a high valley on Beaver Creek Mountain.

We worked closely with their mountain planners to analyze and understand several distinct mountain environments and developed architectural, landscape and engineering design guidelines for each one. The design guidelines provided detailed instructions on ways to create a unique high quality ambiance for this new mountain community.

Working with local engineers we also designed the infrastructure – roads, skier bridges, and signs – and were architects for the project's gatehouse and also for three of the first new mountain-residences there.

- We had a similar assignment at **Arrowhead Village**, a cluster of mid-rise condominiums and skier-services in a pedestrian setting, and another destination in Beaver Creek Mountain's "village-to-village skiing" circuit.

As at Bachelor Gulch, we put together the overall master plan, worked with local planners and engineers on government approvals and on infrastructure, wrote the design guidelines, and participated in the design of the new high-end condominiums. The village center is largely built-out, and we are now working on mountain lots.

- In **Breckenridge**, again working with the Vail team and their 300 acres of developable land, we prepared the Master Plan studies that have been submitted to the Town. The plans included (1) the addition of extensive new ski infrastructure, with a new gondola connecting the mountain in the valley; (2) two new pedestrian villages with mountain-front plazas at the lifts at Peak 7 and Peak 8, and (3) conference center and recreation facilities for a complete, self-contained mountain resort.
- At **Sugar Bowl**, the high-end "snowbound" ski resort in California's summit area, we have been preparing master plans for expansion. Included are restructuring of the development for more effective summer use, and adding new condominiums to the residential mix. The land sales program has been very successful.
- At **Lake Placid**, the site of the 1988 Winter Olympics, we were selected by the Guinness Gleneagles Hotel group to plan a 1,000-acre residential community around a new five star Gleneagles hotel, spa, equestrian center, and two Jack Nicklaus designed golf courses. The final plan included measures to protect the water quality of Mirror Lake and nearby Ausable River during the construction phase and throughout the operating life of the golf courses.

We were also retained to design the new hotel and develop design guidelines for the residential projects.

In addition, we have planned **golf-oriented communities** in other sensitive environments. We've had a chance to work with developers, managers and some of the leading golf architects, such as Tom Fazio, Jack Nicklaus, Trent, Rees and Bobby Jones, Pete Dye and others. For example:

- We recently completed a master plan for the 20,000 acre **Santa Lucia Preserve** in the hills above the Carmel Valley, following one of the most exhaustive environmental analyses ever undertaken by a private developer. It will include a 350 "ranches" around an equestrian ranch center plus an 18 hole **Tom Fazio**-designed private golf course – all set in a protected land preserve. Roads are under construction, and we have started design of the clubhouse.
- At a similar scale, at **Callaway Gardens**, a spectacular resort south of Atlanta with 63 holes of golf, we have been working on master plans for their 14,000 acres and are now the planner-architect member of the team designing a new 250 room resort hotel with a large conference center and spa.
- At **Dorado Beach** in Puerto Rico, the premier golf destination in the Caribbean, with four **Trent Jones** courses, we have been working for **Hyatt** and a local developer to plan new residential and recreational components integrated into this beautiful 5-star resort, originally created by Laurence Rockefeller. The first residential projects sold out quickly and the next phase is in design.
- At **Gainey Ranch**, in Scottsdale Arizona, we prepared development plans for the 640-acre community laid out around 27 holes of golf designed by **Mike Poellot**. We established the architectural and landscape themes, and then designed the new golf clubhouse. With the completion of a large new Hyatt Hotel, this has become one of the two premier golf resort/residential communities in the Phoenix/Scottsdale area, and the plan has generated exceptional land values.
- At **Ruby Hill**, in Livermore Valley, working with Signature Properties and **Jack Nicklaus**, we planned the development of a 1300-acre golf club residential community in a way that would preserve the rural setting and a large, high value estate vineyard and winemaking operation owned by Wente Vineyards.
- In Colorado we have been working for Hines on a community development plan for the 500-acre **River Valley Ranch** at Carbondale, near Aspen. The plan includes a **Jay Morrish** course and a range of housing along the Crystal River, taking advantage of the spectacular views of Mount Sopris. The golf course and first residential products have been completed. (At our meeting you saw design studies for this project.)
- For **The Canyons at Bighorn** in Palm Desert, California, we worked on a community master plan with **Tom Fazio** and designed the total "look" of the project. We are now architects and landscape architects for the initial satellite clubhouse, the sales center, the

first landscape improvements, including the golf course landscape, and for the first residential products – cluster houses – now under construction.

- Also in the Palm Springs area at **Rancho La Quinta**, the home of the Skins Game '96-'98, we prepared master plans for the 700 acre private community surrounding the 36 hole **Robert Trent Jones Jr.** golf course. We then prepared architectural and landscape designs for the first residential products which were built and marketed successfully, as well as a temporary golf clubhouse and their complete new swim/tennis club.

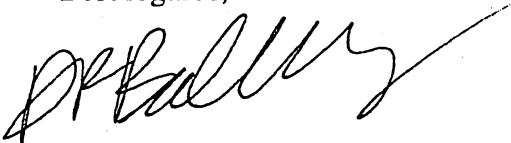
**Photographs** illustrating these and other typical projects are enclosed.

**What distinguishes our firm** from some others is, we think, a **combination** of the following:

- Our outlook is **long term**. We help landowners manage their land assets, increasing their value over many years.
- Our design is **market-driven**. We utilize the professions of planning, architecture and landscape architecture to give our clients a competitive edge in the marketplace.
- Our practice is **multi-disciplinary**. We think and design in terms of complete buyer/customer environments.
- We have been among the leaders in **environmentally sound** development.
- We have had the opportunity to design **world-class** places.
- We have the background and depth of a large, international firm, but provide the enthusiasm, fast response, and **attention to detail** usually found only in a local firm. We limit our workload to make that possible.

We are very excited about the challenge your new resort communities at Belleayre Mountain offer, and we look forward to continuing our work in this spectacular setting.

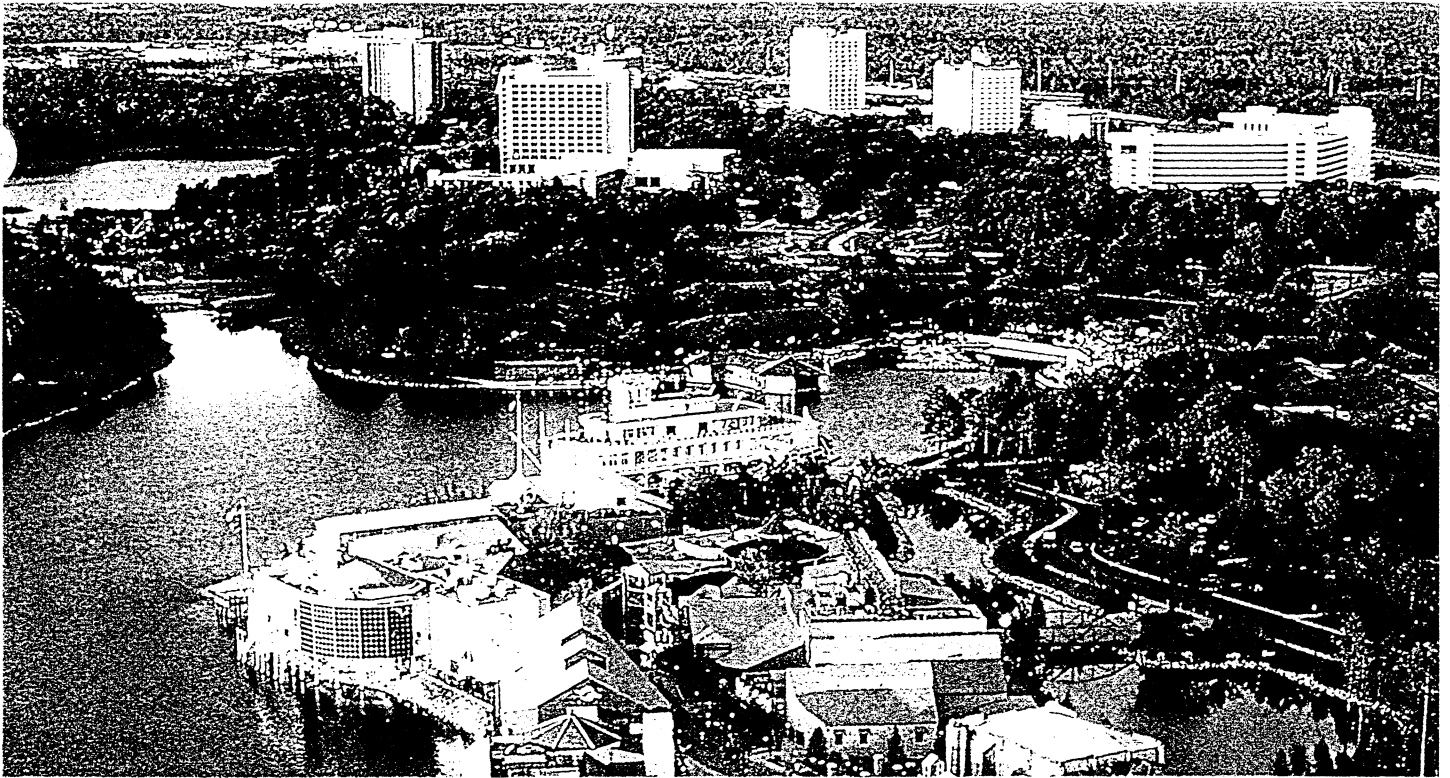
Best regards,



Douglas F. Balsley

DFB:fb

Enclosures



LAKE BUENA VISTA - Walt Disney World, Florida.



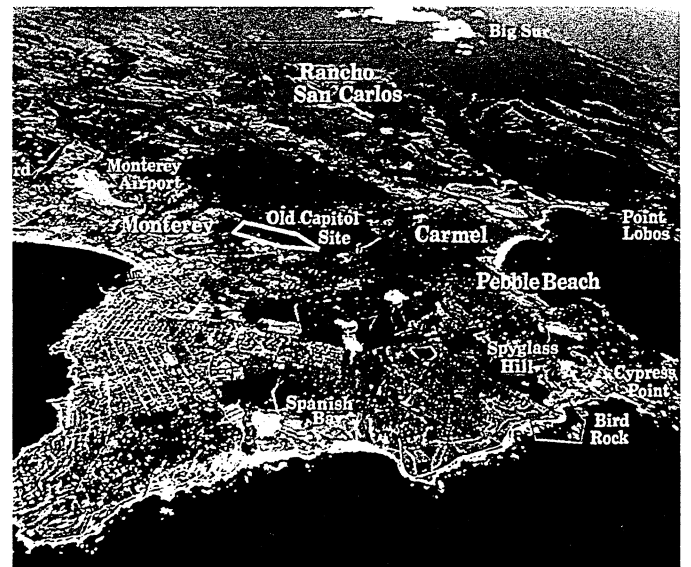
VISION 2020 WAIKIKI - Honolulu, Hawaii.

ROBERT LAMB HART is a team of 60 professionals providing services in land planning, architecture, landscape architecture and interior architecture.

WHAT DISTINGUISHES OUR FIRM from others is a combination of qualities:

- Our outlook is long term. We help our clients manage land as an asset, increasing its value over many years.
- Our design is market driven. We think and design in terms of complete visitor/customer environments.
- Our practice is multi-disciplinary. We utilize the professions of planning, architecture and landscape architecture to create a competitive edge in the market place.
- We have been leaders in environmentally sound development.
- We have the background and depth of a large, international firm, while providing the enthusiasm, fast response, and attention to detail usually found in a local firm.

*Working in some of the world's most notable places...*



MONTEREY PENINSULA - California.



BACHELOR GULCH - Vail, Colorado.



GAINEY RANCH - Scottsdale, Arizona.

OUR CLIENTS have included many leading international developers and businesses:

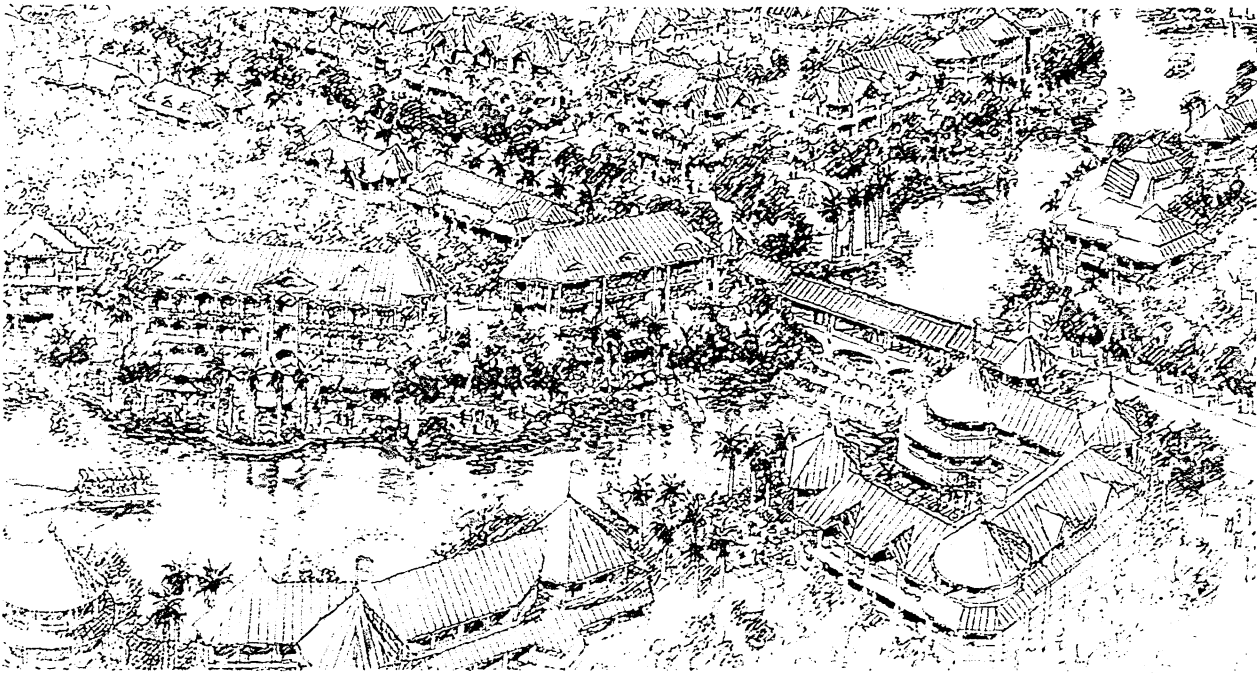
- Caribbean resort operators Hyatt and Cunard.
- The US-based Walt Disney Companies, MCA, Gerald Hines, Irvine Company, Vail Resorts, and the Perot Group.
- Japan based Mitsubishi and Misawa.
- Australia-based Robina Land Company and Battle Properties.
- Philippine based Fil-Estate and Greenfield Properties.

*...with the leading international developers  
and businesses, in outstanding historic  
and natural environments...*



BACHELOR GULCH - Vail, Colorado.





ROBINA - Queensland, Australia.

We have been an integral member on a number of multinational professional teams:

- Adapting and integrating "Western" ideas into local markets--
- Working fast and effectively with our clients and on-site team.

*...in all regions of  
the United States,  
Latin America, Asia,  
Europe and Australia.*



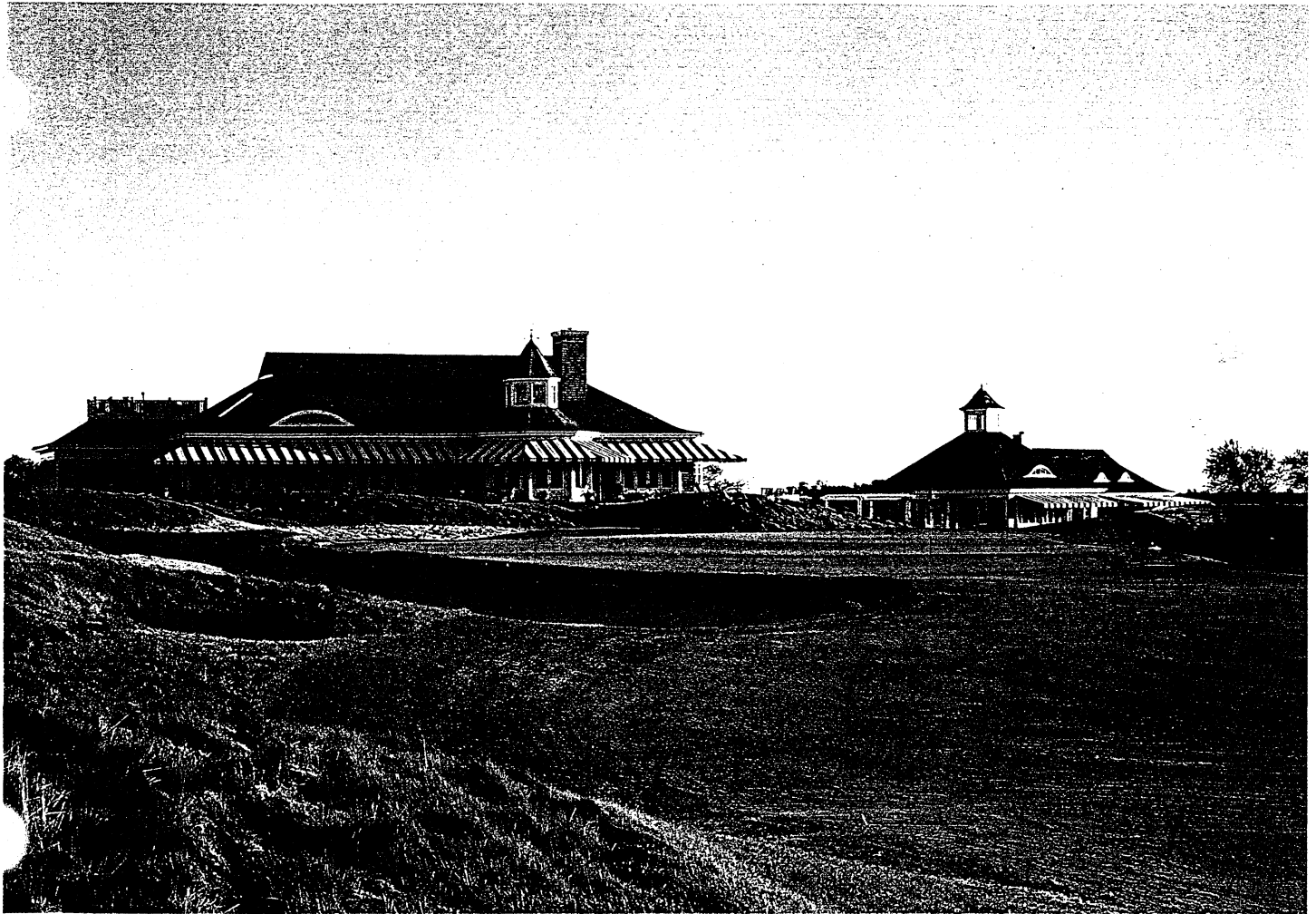
*\*Don Vita put... in these projects prior to joining Robert Lamb Hart, while he was employed with Belt Collins and Associates.*

MAUNA LANI RESORT - Hawaii.\*



TANJUNG JARA RESORT - Trengganu, Malaysia.\*





THE ATLANTIC CLUB - Southampton, New York.

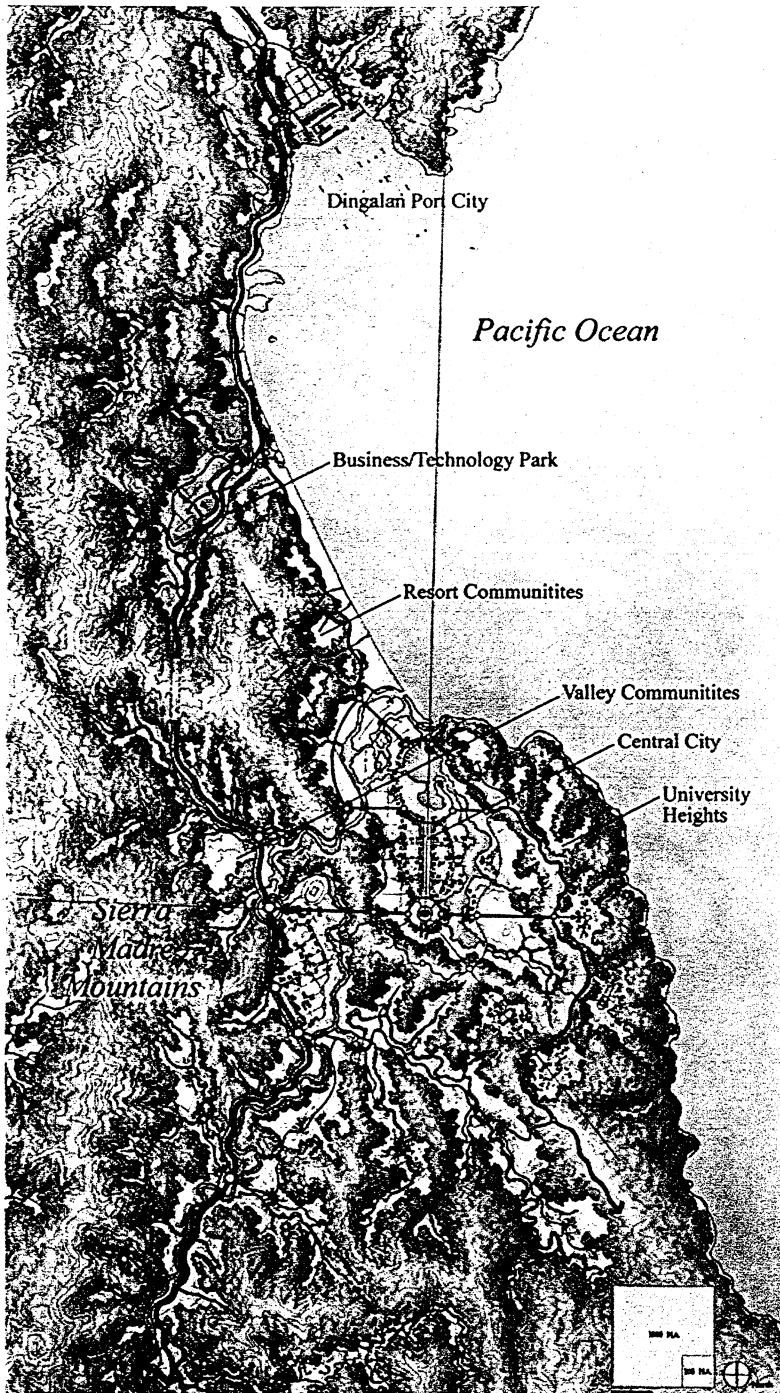
WE HAVE WORKED WITH THE LEADING GOLF COURSE ARCHITECTS:  
Jack Nicklaus, Tom Fazio, Greg Norman, Rees Jones, Art Hills,  
Robert Trent Jones (Junior and Senior), Pete Dye, Mike Poellot,  
and Tom Weiskopf/Jay Morrish.



GAINNEY RANCH - Scottsdale, Arizona.



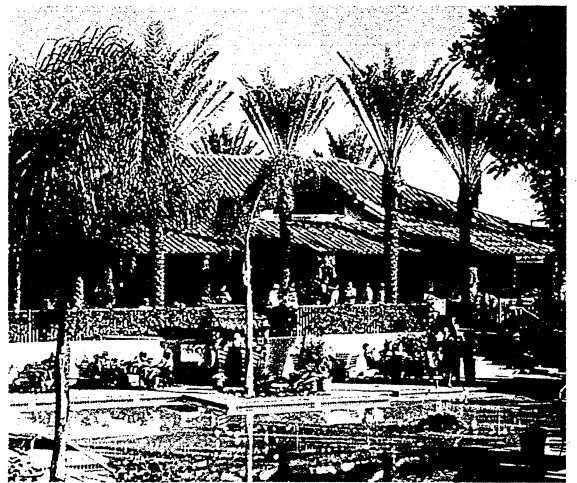
THE CANYONS AT BIGHORN - Palm Desert, California.



A NEW CITY FOR AURORA - Aurora, The Philippines.



LA TOC - Saint Lucia, British Virgin Islands.



RANCHO LA QUINTA - La Quinta, California.



TROIA - Lisbon, Portugal.

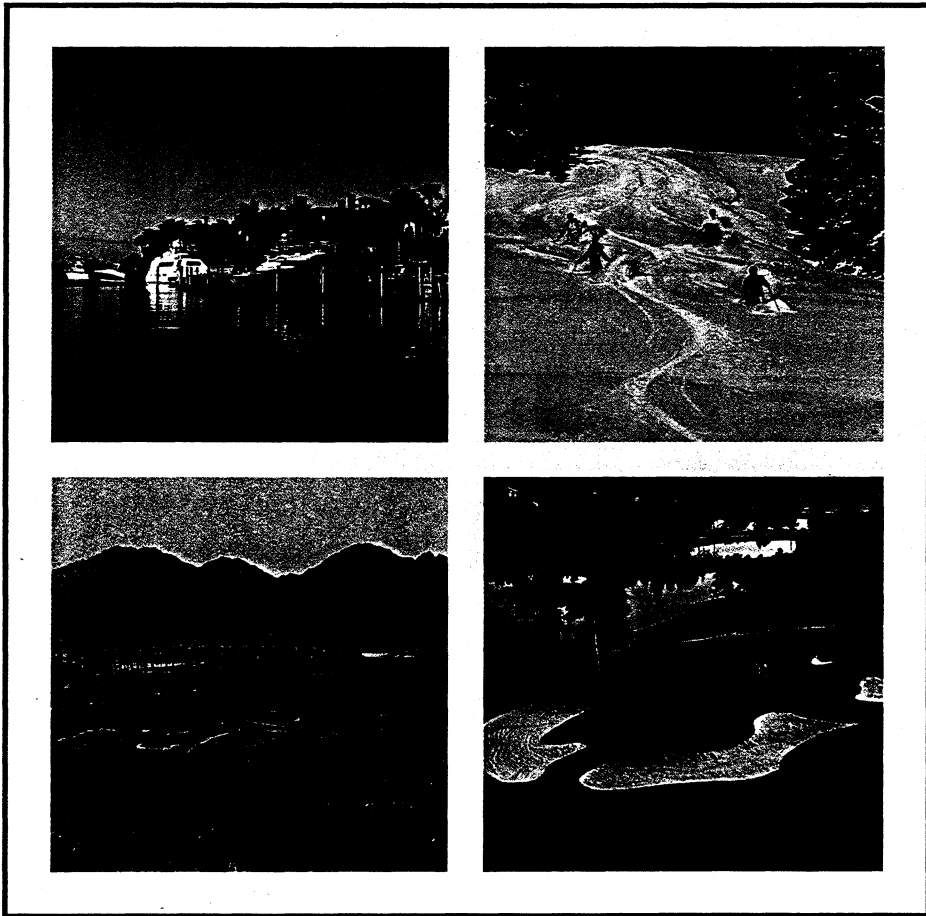
## ROBERT LAMB HART

- San Francisco -

242 California Street, San Francisco, CA 94111  
 t: 415-986-4260 • f: 415-986-4394 • e: [rlh@rlh-sf.com](mailto:rlh@rlh-sf.com)  
 David P. Howerton • Partner

- New York -

10 East 40th Street, New York, NY 10016  
 t: 212-683-5631 • f: 212-481-3768 • e: [HART@1-2000.com](mailto:HART@1-2000.com)  
 Robert L. Hart • Partner



HILLIER & ASSOCIATES

The legal and consulting firm of Hillier & Associates specializes in corporate and real estate law, with emphasis on the design and implementation of club membership programs for developers of high-end private clubs, semi-private clubs, resorts, yacht clubs and marina developments, ski programs, property owners associations and association clubs.

Our broad array of experience additionally includes finance, operations, management, marketing, systems implementation, personnel and public relations, which is invaluable in the representation of our clients and allows the clients to meet their needs.

We provide program integration with project development expertise in a broad range of recreational amenities, including golf, tennis, beach club, yacht, ski, croquet, equestrian and polo.

Our goal is to enable our clients to develop an effective amenity strategy, which will appeal to prospective members, while maximizing economic value. We design programs for our clients that will effectively recover the costs of constructing and operating their recreational facilities.

In developing creative solutions for each client's unique needs, we strive to devise the best solutions to legal issues, based upon precedent and innovation, to provide sound advice regarding finance, management, technology, operations, litigation risk and product marketability and to deliver these services in the most direct, timely and cost effective manner possible.

**HILLIER & ASSOCIATES**

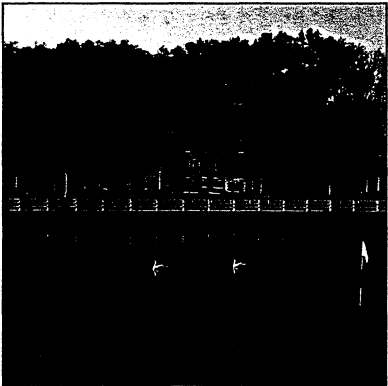
# I N T R O D U C T I O N



COLLIER'S RESERVE COUNTRY CLUB



BOCA WEST CLUB



NEW ALBANY COUNTRY CLUB

The philosophy that empowers the law firm of Hillier & Associates in its pursuit of excellence is based on designing unique solutions that best meet our clients' needs. Our broad expertise in the club and hospitality industry enables the Firm to formulate breakthrough ideas and concepts that give our clients a superior competitive edge in the marketplace. The comprehensive legal documents we produce are only a means to an end — the success of our clients.

Hillier & Associates is organized into teams of fast-response professionals and support staff experienced not only in corporate, real estate and tax law, but also in finance, marketing, management, operations, systems implementation, personnel and public relations. Strategic thinking, long-term planning and the experience required to serve our clients at many levels are inherent in the Firm's commitment to its clients, both nationally and internationally. We are in the midst of a technological revolution and Hillier & Associates is in the forefront, using the newest computer technology to access information necessary in the representation of our clients.

In crafting creative solutions to each client's unique needs, we strive to:

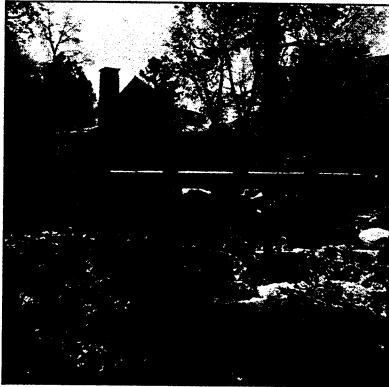
- Devise the best solutions to legal issues, based on precedent and innovation
- Provide sound advice regarding finance, management, operations, litigation risks and product marketability
- Deliver services in the most direct, timely and cost effective manner possible

We are very proud of our history, and continually look forward to new and exciting challenges.

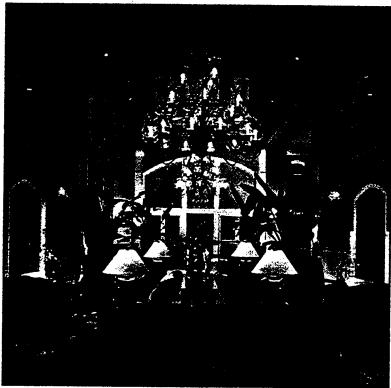
Hillier & Associates specializes in:

- High-End Private Clubs
- Semi-Private Clubs
- Resorts
- Yacht Clubs and Marina Development
- Ski Programs
- Property Owner Associations
- Association Clubs
- High-End Vacation Club Programs

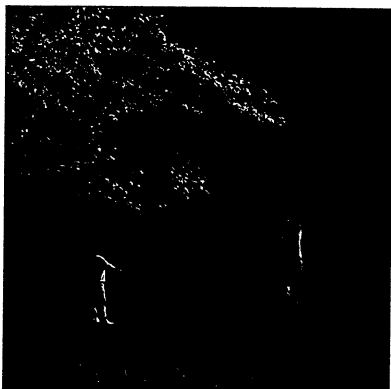
# M E M B E R S H I P P R O G R A M D E S I G N



ROARING FORK CLUB



BALLENISLES COUNTRY CLUB



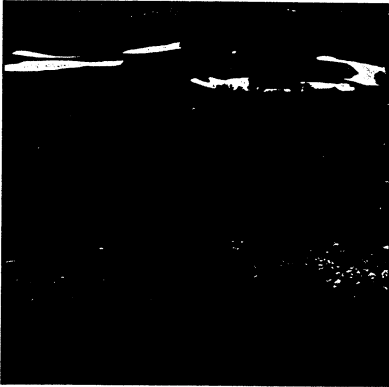
REYNOLDS NATIONAL CLUB

Hillier & Associates has extensive experience in designing effective membership programs for the recreation industry since 1973. The Firm has successfully created membership programs for prestigious golf course developments, upscale communities and luxurious resorts throughout the world. The Firm provides an in-depth analysis of the benefits of equity, non-equity, convertible equity, semi-private and daily-fee membership options for specific situations that enables clients to make informed and financially sound market-driven decisions. The Firm then applies its expertise in legal, financial, operations, and marketing considerations in developing and implementing custom-tailored membership programs that specifically target select markets and achieve our clients' goals.

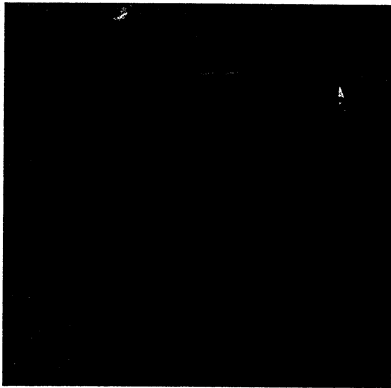
Clients can rely on Hillier & Associates' national and international experience to:

- Serve as lead specialists in designing highly effective membership programs for country clubs and resort facilities
- Organize and facilitate charette with entire development team to design the appropriate membership program structure
- Develop amenity strategies maximizing club and project potential
- Provide comprehensive marketing services and implement marketing programs
- Provide counsel on the acquisition, operation and disposition of club properties

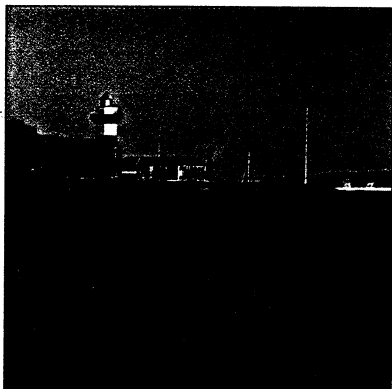
# G O L F C L U B S



BLACK DIAMOND CLUB



THE CLUB AT LAS CAMPANAS



SEA PINES PLANTATION

Hillier & Associates is known for its creativity, resourcefulness and follow up in developing membership programs for a broad spectrum of golf course projects, ranging from primary home communities to high-end resort facilities. We evaluate membership program options that relate to the potential profitability of a particular golf course operation. Because of our extensive experience, we have established relationships with leading golf course development consultants who will work with the team in contributing their knowledge. These include golf course and clubhouse architects, land planners, accountants, management companies, and feasibility consultants. The Firm's expertise assists developers in taking advantage of the demand for golf and the benefits of golf course amenitization.

Hillier & Associates will:

- Utilize its comparable club database that provides the necessary background for your club program
- Review site and facility analysis, business plans, and income and expense projections
- Provide expert legal counsel critical in negotiations for acquisition of site, operation and management

# S K I P R O G R A M S



VAIL



SNOWMASS



BEAVER CREEK

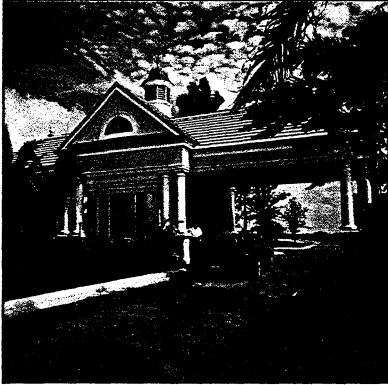
Developers have long recognized the benefits of including golf courses, tennis and swim facilities, marina facilities and social facilities in a private club or semi-private club structure with a membership program. More recently, new and creative ideas have been developed to incorporate ski facilities into a club membership program, enabling the developer to realize a significant return of investment from the sale of memberships, while enhancing the marketability of a residential community by adding to the lifestyle package offered to residents. Hillier & Associates has been in the forefront of the design and creation of private and semi-private clubs which include ski facilities as an important component of the club amenities.

Hillier & Associates will assist an owner of ski facilities by providing the following services:

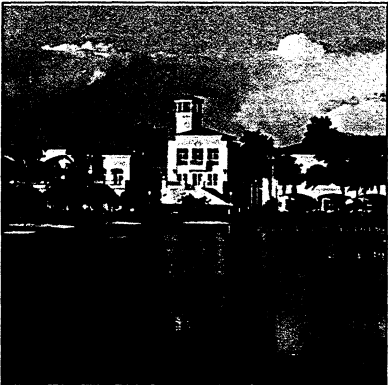
- Analysis of whether including the ski facilities in a private or semi-private club membership would be beneficial
- Analysis and counsel with respect to other recreational and social facilities, together with ski facilities in a club membership plan
- Design of a membership program to maximize the marketability and perceived value of club memberships
- Negotiation and preparation of agreements with owners of other amenities for reciprocal use rights



# PROPERTY OWNER ASSOCIATIONS & ASSOCIATION CLUBS



THE FIDDLER'S CREEK CLUB



WYCLIFFE GOLF AND  
COUNTRY CLUB



BONITA BAY CLUB

Proper planning for a residential community includes designing and creating a property owners association tailored to the particular needs of that residential community. As a result of the Firm's many years of experience with residential communities and property owner associations, Hillier & Associates is able to design and create a property owners association structure compatible with the marketing plan for the community and meet the long range planning and operational needs of the developer and the residents.

Developers of certain types of residential communities may benefit from the use of an association club membership program. An association club is a property owners association that owns and operates amenities such as golf courses, clubhouses, tennis and swim facilities, or other recreational amenities, often thought of as private club amenities. The ownership and operation of these amenities by an association club can enable a developer to provide these amenities to residents on a more affordable basis by spreading the costs among all of the residents. Hillier & Associates has extensive experience in planning, designing and creating association clubs and advising developers whether an association club structure would be beneficial for their residential community.

Hillier & Associates provides the following with respect to community associations:

- Design of property owners association structure
- Determination of necessity or desirability of sub-associations
- Advice with respect to the ownership and operation of amenities in the community
- Planning of the operational aspects of the property owners association
- Counsel regarding the turnover of control of the association, including strategic planning to avoid or minimize issues and problems related to the turnover

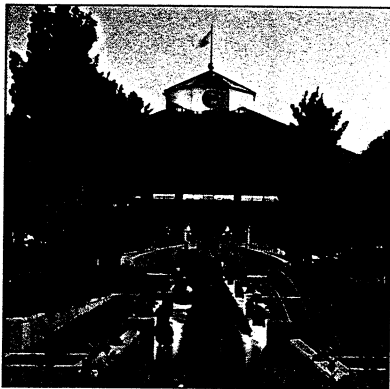
# R E S O R T C L U B S



KINGSMILL RESORT & CLUB



BOCA RATON RESORT & CLUB



DORAL GOLF RESORT & SPA

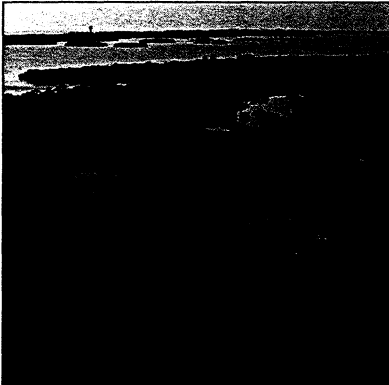
Hillier & Associates is a pioneer in the field of developing amenity strategies at resort projects. The Firm has been able to assist numerous hotel and resort operators in repositioning their recreational facilities as profit centers through the implementation of a club membership program. With a keen awareness of facilities programming, operational considerations and desirable membership features, programs and activities, we are able to design programs that are functional and appealing to both members and resort guests.

Significant capital for the resort and owner can be generated through the collection of membership joining fees, while operational cash flow is enhanced measurably through member dues and spending. These beneficial economic impacts can be accomplished without a substantial increase in operating expenses, thus resulting in a dramatic positive impact on a resort's net income.

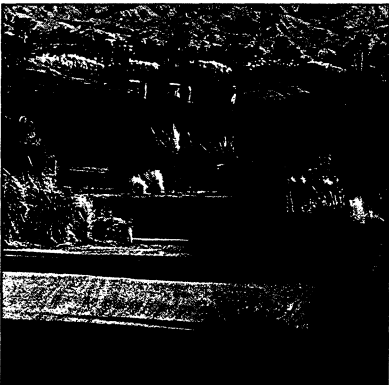
Hillier & Associates will provide the following in the development of an attractive resort club membership program:

- Advice on club facilities programming
- Analysis of financial projections relating to implementation of a resort club program
- Design of high-end vacation clubs
- Design of a membership program addressing the needs and interests of both club members and resort guests
- Formulation of creative ideas on activities appealing to members
- Preparation of comprehensive membership plan documentation

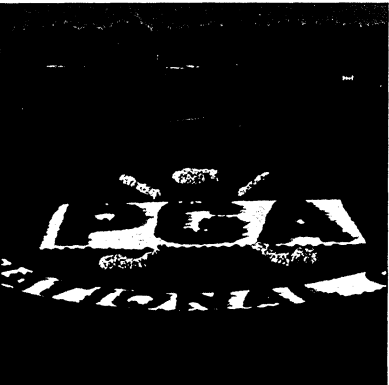
# R E S O R T   D E V E L O P M E N T



KIAWAH ISLAND CLUB



PGA WEST RESORT



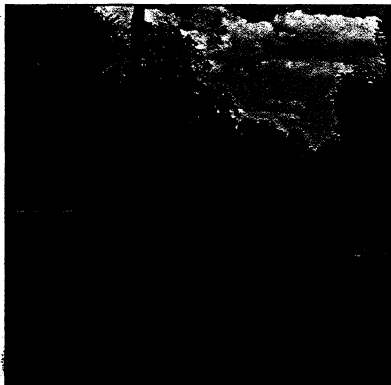
PGA NATIONAL CLUB

Hillier & Associates has specialized experience in assisting resort developers to succeed in today's competitive environment. Successful luxury resort projects have flexible, well-considered management arrangements, guaranteed access to an array of recreational amenities, appropriate relationships between resort and other components of the project, and revenue enhancement programs and arrangements for under-utilized recreational amenities.

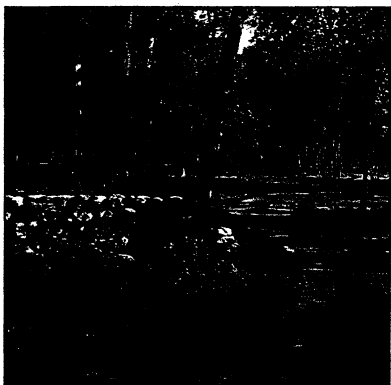
Hillier & Associates is uniquely positioned to assist the resort developer in planning and integrating these essential elements by providing:

- Negotiation of hotel management agreements
- Negotiation of club recreational amenity management arrangements
- Design of a plan for utilization of recreational amenities taking into consideration resort guest needs, possible generation of capital and revenue from a club membership program, other revenue enhancement options, and the need for residential development in the project
- Negotiation of facilities access agreements both for resort guest use of third party facilities and use of under-utilized resort amenities

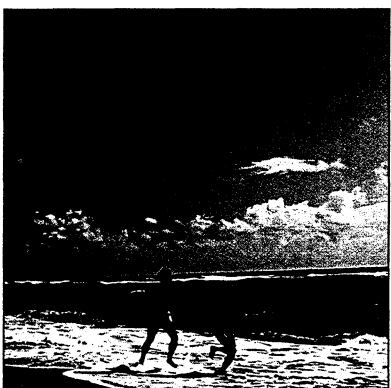
# MARKETING OF CLUB MEMBERSHIPS



OAKHURST COUNTRY CLUB



THE GOLF CLUB OF PURCHASE



THE BEACH CLUB

Hillier & Associates specializes in the development of marketing plans that result in generating optimum return of capital and recurring revenue from the sale of memberships. The Firm has extensive industry experience and the ability to create and maintain a competitive edge in marketing of club memberships, emphasizing the personality and spirit of a Club. Specific goals and strategies are outlined in a well-detailed marketing plan. The Club's image and position in the community are clearly defined and then enhanced through the effective implementation of lead generation and target marketing.

Hillier & Associates will create a complete specialized marketing program to include:

- Conducting precise on-site market analysis
- Comparable club study using our national comparable club database
- Determination of market positioning and strategy
- Sales forecasting and budgeting
- Designing a personalized marketing plan
- Providing action plans and timelines
- Recruitment and customized training of qualified personnel
- Creation of an effective membership sales environment
- Individually designed computer contact management database
- Preparation of club profile, way-of-life brochures and marketing collateral materials
- Prospective member identification and lead generation
- Establishing the Board of Governors and Committees
- Successful communication of the program
- Orienting the real estate sales staff, builders and brokers with the membership program's salient features
- Continued contact with and support for the membership sales staff

Hillier & Associates brings over 25 years of experience and the design of more than 900 membership programs throughout the United States, the Caribbean and worldwide to the recreation industry. From the initial due diligence to the membership program design, from the development of legal documentation to the implementation of a successful marketing strategy, Hillier & Associates will craft a unique program to give each client that competitive edge in the marketplace. We are very proud of our history and continually look forward to new and exciting challenges.



FOR ADDITIONAL INFORMATION PLEASE CONTACT

## HILLIER & ASSOCIATES

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BOCA RATON, FLORIDA 33431

PHONE: 561.367.0430 FAX: 561.362.8803

E-MAIL: [hillierlaw@hillierclub.com](mailto:hillierlaw@hillierclub.com)

[WWW.HILLIERCLUB.COM](http://WWW.HILLIERCLUB.COM)

# HILLIER & ASSOCIATES, P. A.

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## REPRESENTATIVE LIST OF CLIENTS

AMERICAN FINANCIAL CORPORATION  
ARNOLD PALMER GOLF MANAGEMENT COMPANY  
ARVIDA CORPORATION  
ATLANTIC GULF COMMUNITIES  
AUGUSTA GOLF PLANNING and DEVELOPMENT COMPANY  
BOCA RATON RESORT & CLUB  
CASTLE & COOKE COMPANY  
CHAFFIN-LIGHT ASSOCIATES  
CITICORP  
CLINT EASTWOOD  
CLUB CORPORATION of AMERICA  
COLLIER ENTERPRISES  
CORDILLERA  
CRESCENT RESOURCES, INC., a subsidiary of Duke Power Company  
DMB ASSOCIATES  
DESERT MOUNTAIN PROPERTIES  
DESERT TROON INVESTMENTS  
DEV-CON ASSOCIATION  
DOMINION RESOURCES, a subsidiary of Virginia Power  
DORAL PROPERTIES, INC.  
DRUMMOND COMPANY, INC.  
EAST WEST PARTNERS  
FAIRFIELD COMMUNITIES, INC.  
FLORIDA PANTHERS HOLDINGS, INC.  
FOUNTAINHEAD DEVELOPMENT  
FUJI DEVELOPMENT USA, LTD.  
GOLF COMMUNITIES OF FLORIDA  
GOLDEN BEAR INTERNATIONAL  
GRUPE DEVELOPMENT COMPANY  
GULF BAY DEVELOPMENT  
HILTON HEAD PLANTATION COMPANY  
INTERNATIONAL PAPER REALTY CORPORATION OF SOUTH CAROLINA  
INTRAWEST  
ITT COMMUNITY DEVELOPMENT CORPORATION  
JOHN'S ISLAND COMPANY  
KSL RECREATION CORPORATION  
LENNAR HOMES, INC.  
LIBERTY MUTUAL INSURANCE COMPANY  
LOWE ENTERPRISES  
MANSUR INVESTMENT SERVICES  
MARRIOTT VACATION CLUB INTERNATIONAL  
MOBIL LAND DEVELOPMENT (FLORIDA) CORPORATION, a subsidiary of Mobil Corporation  
MUTUAL BENEFIT LIFE INSURANCE COMPANY  
NEW CITIES DEVELOPMENT COMPANY  
OKLAHOMA PUBLISHING COMPANY  
OLYMPIC GROUP  
PGA NATIONAL VENTURE  
RED ROCK RESORTS, LTD.  
RITZ CARLTON  
SEA PINES PLANTATION COMPANY

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4800 North Federal Highway  
Sanctuary Centre, Tower B • Suite 300  
Boca Raton, Florida 33431  
Telephone (561) 367-0430  
Telecopier (561) 362-8803

# HILLIER & ASSOCIATES, P. A.

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## REPRESENTATIVE LIST OF CLIENTS (CONT.)

SHEA HOMES  
STAG GULCH PARTNERS  
SUNBELT HOLDINGS  
SUN DEVELOPMENT  
SUNMARK COMMUNITIES CORP.  
TAYLOR WOODROW HOMES, INC.  
TERRABROOK  
THE BEACH COMPANY  
THE BRANIGAR ORGANIZATION, INC., a subsidiary of Union Camp  
THE LYLE ANDERSON COMPANY  
USR REALTY, a subsidiary of USX  
VAIL ASSOCIATES  
WESTBROOK PROPERTIES  
THE WOODLANDS OPERATING COMPANY

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## REPRESENTATIVE LIST OF CLUBS AND RESORTS

### NORTHEAST

BALLENROSE COUNTRY CLUB	Blue Bell, Pennsylvania
BALLYMEAD COUNTRY CLUB	North Falmouth, Massachusetts
CHERRY VALLEY COUNTRY CLUB	Lawrenceville, New Jersey
COMMONWEALTH NATIONAL COUNTRY CLUB	Horsham, Pennsylvania
THE GOLF CLUB OF PURCHASE	Harrison, New York
EQUINOX HOTEL & RESORT	Manchester, Vermont
GLADES SPRINGS RESORT	Daniels, West Virginia
KINGS CREEK COUNTRY CLUB	Rehoboth Beach, Delaware
MANHATTAN WOODS GOLF CLUB	West Nyack, New York
RIDGEVIEW COUNTRY CLUB	Ligonier, Pennsylvania
SEVEN OAKS COUNTRY CLUB	Beaver, Pennsylvania
WENTWORTH BY THE SEA	Portsmouth, New Hampshire
WILLOWBEND	Mashpee, Massachusetts

### SOUTHEAST

BALD HEAD ISLAND CLUB	South Port, North Carolina
BALLANTYNE	Pineville, North Carolina
THE BEACH CLUB	Gulf Shores, Alabama
BELFAIR PLANTATION	Hilton Head, South Carolina
BLACK CREEK CLUB	Chattanooga, Tennessee
BRANDERMILL COUNTRY CLUB	Midlothian, Virginia
BRENTWOOD COUNTRY CLUB	Brentwood, Tennessee
BROOKSTONE GOLF & COUNTRY CLUB	Acworth, Georgia
THE COUNTRY CLUB OF CALLAWASSIE	Beaufort, South Carolina
COUNTRY CLUB OF HILTON HEAD	Hilton Head Island, South Carolina
THE CLUB AT CANEBRAKE	Athens, Alabama
CULLASAJA CLUB	Highlands, North Carolina
DAUFUSKIE ISLAND CLUB	Daufuskie Island, South Carolina
DEBORDIEU CLUB	Pawley's Island, South Carolina
THE DOMINION CLUB	Glen Allen, Virginia
EAGLE POINT GOLF CLUB	Wilmington, North Carolina
THE GOLF CLUB OF GEORGIA	Alpharetta, Georgia
GOVERNORS CLUB	Chapel Hill, North Carolina
HAIG POINT CLUB	Daufuskie Island, South Carolina
THE HAMPTON CLUB	Saint Simons Island, Georgia
HIDDEN CREEK COUNTRY CLUB	Reston, Virginia
KINGSMILL RESORT	Williamsburg, Virginia
LAKE CUMBERLAND	Essex Fells, New Jersey
LAKE LANIER	Atlanta, Georgia
THE LANDINGS CLUB	Savannah, Georgia
LAKESWOOD OAKS GOLF CLUB	Point Clear, Alabama
THE LEGENDS AT CHATEAU ELAN	Braselton, Georgia
LEGENDS RIDGE GOLF CLUB	Franklin, Tennessee
LIMESTONE SPRINGS	Oneonta, Alabama
THE MELROSE CLUB	Hilton Head, South Carolina
OLD NORTH STATE CLUB	New London, North Carolina
OLDE POINT GOLF & COUNTRY CLUB	Hampstead, North Carolina
THE ORCHID	Clarksville, Georgia
OYSTER REEF GOLF CLUB	Hilton Head Island, South Carolina
PALMETTO HALL GOLF CLUB	Hilton Head Island, South Carolina
THE PENINSULA CLUB	Charlotte, North Carolina
PORT ROYAL PLANTATION	Hilton Head Island, South Carolina
PORTERS NECK PLANTATION	Wilmington, North Carolina
REYNOLDS NATIONAL CLUB	Greensboro, Georgia
ROBERT TRENT JONES GOLF CLUB	Gainesville, Virginia



# HILLIER & ASSOCIATES, P. A.

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ROSE HILL COUNTRY CLUB  
SAVANNA CLUB  
SEA PINES COUNTRY CLUB  
SHIPYARD PLANTATION  
SPRING ISLAND CLUB  
SOUTH CAROLINA YACHT CLUB  
TREYBURN COUNTRY CLUB  
TWO RIVERS COUNTRY CLUB  
THE VIRGINIAN GOLF CLUB  
WACHESAW PLANTATION CLUB  
WHITE COLUMNS CLUB

Bluffton, South Carolina  
Greensboro, Georgia  
Hilton Head Island, South Carolina  
Hilton Head Island, South Carolina  
Spring Island, South Carolina  
Hilton Head Island, South Carolina  
Durham, North Carolina  
Williamsburg, Virginia  
Bristol, Virginia  
Murrells Inlet, South Carolina  
Alpharetta, Georgia

## FLORIDA

ADDISON RESERVE  
THE CLUB AT ADMIRAL'S COVE  
ALAUCA COUNTRY CLUB  
AMELIA ISLAND  
BALLENISLES COUNTRY CLUB  
BALLANTRAE GOLF & COUNTRY CLUB  
BATH & TENNIS CLUB  
BAY HILL CLUB  
BAYOU CLUB  
BEACH CLUB AT SANDESTIN  
BEAR LAKES COUNTRY CLUB  
THE BEAR'S CLUB  
BENT PINE GOLF CLUB  
BLACK DIAMOND CLUB  
BOCA GRANDE CLUB  
BOCA GREENS COUNTRY CLUB  
BOCA LAGO COUNTRY CLUB  
BOCA POINTE COUNTRY CLUB  
BOCA RATON RESORT & CLUB  
BOCA WEST CLUB  
BOCAIRE COUNTRY CLUB  
BONITA BAY CLUB  
BROKEN SOUND CLUB  
BURNT PINE GOLF CLUB  
CAPE MARCO YACHT CLUB  
CITRUS HILLS GOLF CLUB  
COLLIER'S RESERVE COUNTRY CLUB  
COLONY HOTEL & CABANA CLUB  
CORAL RIDGE COUNTRY CLUB  
CUTTER SOUND  
CYPRESS LINKS  
DEERING BAY YACHT & COUNTRY CLUB  
DELAIRE COUNTRY CLUB  
THE DELRAY BEACH CLUB  
DEL VERA COUNTRY CLUB  
DORAL GOLF RESORT & SPA  
DORAL PARK GOLF & COUNTRY CLUB  
EASTPOINTE COUNTRY CLUB  
EMERALD DUNES GOLF CLUB  
THE FIDDLERS' CREEK CLUB  
FISHER ISLAND CLUB  
GRAND BAY CLUB  
GRAND HARBOR CLUB  
GRAND HAVEN  
GRASSLANDS GOLF AND COUNTRY CLUB  
THE HAMMOCK DUNES CLUB  
HARBOR HILLS GOLF & COUNTRY CLUB  
HARBOUR RIDGE COUNTRY CLUB  
HARBOR VILLAGE BEACH CLUB

Delray Beach  
Jupiter  
Longwood  
Amelia Island  
Palm Beach Gardens  
Port St. Lucie  
Palm Beach  
Orlando  
Lago  
Destin  
West Palm Beach  
Jupiter  
Vero Beach  
Lecanto  
Boca Grande  
Boca Raton  
Boca Raton  
Boca Raton  
Boca Raton  
Boca Raton  
Boca Raton  
Bonita Springs  
Boca Raton  
Destin  
Naples  
Hernando  
Naples  
Delray Beach  
Fort Lauderdale  
Stuart  
Jupiter  
Miami  
Delray Beach  
Delray Beach  
North Fort Myers  
Miami  
Miami  
Palm Beach Gardens  
West Palm Beach  
Naples  
Miami  
Key Biscayne  
Vero Beach  
Palm Coast  
Lakeland  
Palm Coast  
Lady Lake  
Stuart  
Coral Gables

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# HILLIER & ASSOCIATES, P. A.

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HAWK'S NEST GOLF CLUB	Vero Beach
HIGH RIDGE COUNTRY CLUB	Boynton
HUNTER'S GREEN COUNTRY CLUB	Tampa
HUNTER'S RUN GOLF AND RACQUET CLUB	Boynton Beach
IBIS GOLF AND COUNTRY CLUB	West Palm Beach
IMPERIAL LAKES COUNTRY CLUB	Lakeland
INDIAN CREEK COUNTRY CLUB	Coral Gables
ISLEWORTH COUNTRY CLUB	Orlando
JACKSONVILLE GOLF AND COUNTRY CLUB	Jacksonville
JOHN'S ISLAND CLUB	Vero Beach
LACUNA GOLF CLUB	Lake Worth
LAKE WORTH RACQUET & SWIM CLUB	Lake Worth
LELY RESORT	Naples
LODGE AND BATH CLUB AT POINT VEDRA	Point Vedra Beach
LOST TREE CLUB	North Palm Beach
MARINER SANDS COUNTRY CLUB	Stuart
MARTIN DOWNS COUNTRY CLUB	Palm City
MEADOWOOD GOLF AND TENNIS CLUB	Fort Pierce
MONARCH COUNTRY CLUB	Palm City
THE MOORINGS CLUB	Vero Beach
OAK BRIDGE CLUB	Ponte Vedra Beach
OCEAN REEF CLUB	Key Largo
ORCHID ISLAND GOLF & BEACH CLUB	Vero Beach
PALM-AIRE COUNTRY CLUB AT SARASOTA	Sarasota
PALM COAST RESORT	Palm Coast
PASADENA YACHT AND COUNTRY CLUB	St. Petersburg
THE CLUB AT PELICAN BAY	Naples
PELICAN ISLE YACHT CLUB	Naples
THE CLUB AT PELICAN STRAND	Naples
PGA NATIONAL GOLF & SPORTS CLUB	Palm Beach Gardens
PIPER'S LANDING	Palm City
PLANTATION GOLF & COUNTRY CLUB	Venice
RITZ CARLTON RESORT AT SARASOTA	Sarasota
PRESIDENT'S COUNTRY CLUB	West Palm Beach
ROYAL TARPON	Naples
SAILFISH POINT	Stuart
THE SANCTUARY GOLF CLUB	Sanibel Island
SAWGRASS COUNTRY CLUB	Ponte Vedra Beach
SEVEN SPRINGS GOLF AND COUNTRY CLUB	New Port Richey
SHADOW WOOD COUNTRY CLUB	Bonita Springs
SOUTHAMPTON ASSOCIATION CLUB	Naples
ST. ANDREWS COUNTRY CLUB	Boca Raton
ST. CHARLES YACHT CLUB	Fort Myers
STERLING OAKS	Naples
TOWN SWIM & RACQUET CLUB	Boca Raton
TURNBERRY ISLE RESORT & CLUB	Aventura
TWINEAGLES	Naples
VENICE GOLF & COUNTRY CLUB	Venice
VINES COUNTRY CLUB	Fort Myers
VINEYARDS COUNTRY CLUB	Naples
WEST BAY CLUB	Estero
WESTON HILLS COUNTRY CLUB	Fort Lauderdale
WILLIAMS ISLAND	North Miami Beach
WILLOUGHBY GOLF CLUB	Stuart
THE WINDSOR CLUB	Vero Beach
WINDSTAR ON NAPLES BAY	Naples
WOODMONT COUNTRY CLUB	Tamarac
WYCLIFFE GOLF & COUNTRY CLUB	Lake Worth

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4800 North Federal Highway  
Sanctuary Centre, Tower B • Suite 300  
Boca Raton, Florida 33431  
Telephone (561) 367-0430  
Telecopier (561) 362-8803

# HILLIER & ASSOCIATES, P. A.

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## MIDWEST

BARRINGTON GOLF CLUB	Aurora, Ohio
BRANSON GLADES	Hollister, Missouri
THE BRASSIE CLUB	Franklin, Indiana
CRYSTAL TREE GOLF AND COUNTRY CLUB	Orland Park, Illinois
DAKOTA DUNES COUNTRY CLUB	Dakota Dunes, South Dakota
EAGLE BROOK COUNTRY CLUB	Geneva, Illinois
GLENMOOR COUNTRY CLUB	Canton, Ohio
HAWTHORNS GOLF & COUNTRY CLUB	Fishers, Indiana
HERITAGE CLUB	Cincinnati, Ohio
HUNTLEY MEADOWS	Huntley, Illinois
INDIAN LAKES RESORT	Bloomington, Illinois
IVY HILLS COUNTRY CLUB	Cincinnati, Ohio
NEW ALBANY COUNTRY CLUB	New Albany, Ohio
NORDIC HILLS RESORT & CONFERENCE CENTER	Itasca, Illinois
OAKHURST COUNTRY CLUB	Clarkston, Michigan
PEBBLE CREEK COUNTRY CLUB	Cincinnati, Ohio
PINEHURST FARMS	Sheboygan Falls, Wisconsin
SALEM SPORTS CLUB	Plymouth, Michigan
ROCHESTER HILLS GOLF CLUB	Rochester Hills, Michigan
ROYAL MELBOURNE	Long Grove, Illinois
THE CLUB AT PORTO CIMA	Ozark, Missouri
RUFFLED FEATHERS GOLF CLUB	Lemont, Illinois
SHAWNEE BEND	Lake Ozark, Missouri
STONE OAK COUNTRY CLUB	Holland, Ohio
VACATION CLUB	Lake Ozark, Missouri
WETHERINGTON GOLF & COUNTRY CLUB	West Chester, Ohio
WINGFORD ESTATE	Marysville, Michigan
WINGHAVEN COUNTRY CLUB	O'Fallon, Missouri

## WEST

ARIZONA BILTMORE HOTEL & RESORT	Phoenix, Arizona
ARROWCREEK	Reno, Nevada
ARROWHEAD ALPINE CLUB	Avon, Colorado
ARROWHEAD COUNTRY CLUB	Glendale, Arizona
BACHELOR'S GULCH CLUB	Avon, Colorado
BEAVER CREEK CLUB	Avon, Colorado
BIGHORN COUNTRY CLUB	Palm Desert, California
THE BRIDGES AT RANCHO SANTA FE	Rancho Santa Fe, California
BROOKSIDE COUNTRY CLUB	Stockton, California
CHARDONNAY CLUB	Napa, California
THE CLUB AT CARLTON WOODS	The Woodlands, Texas
THE CLUB AT CORDILLERA	Edwards, Colorado
THE CLUB AT LAS CAMPANAS	Santa Fe, New Mexico
CLUB PALMILLA	Newport Beach, California
COLONY GOLF CLUB	Englewood, Colorado
CORAL MOUNTAIN AT LA QUINTA	La Quinta, California
COTTON RANCH	Gypsum, Colorado
CRESTED BUTTE COUNTRY CLUB	Crested Butte, Colorado
DAYTON VALLEY COUNTRY CLUB	Dayton Valley, Nevada
DC RANCH	Phoenix, Arizona
DESERT HORIZONS	Indian Wells, California
THE DESERT MOUNTAIN CLUB	Scottsdale, Arizona
ESTANCIA CLUB	Scottsdale, Arizona
FIREROCK COUNTRY CLUB	Fountain Hills, Arizona
GAINNEY RANCH CLUB	Scottsdale, Arizona
GAILLARDIA GOLF & COUNTRY CLUB	Oklahoma City, Oklahoma
THE GALLERY GOLF CLUB	Tucson, Arizona
GOLDEN PEAK	Vail, Colorado

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# HILLIER & ASSOCIATES, P. A.

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GOLF CLUB OF SCOTTSDALE	Scottsdale, Arizona
GRAYHAWK COUNTRY CLUB	Scottsdale, Arizona
HARBOR VIEW	Woodstock, California
HASSAYAMPA COUNTRY CLUB	Prescott, Arizona
KEENE'S POINT COUNTRY CLUB	Bakersfield, California
LA QUINTA RESORT	La Quinta, California
MAIN STREET STATION	Breckenridge, Colorado
MAROON CREEK CLUB	Aspen, Colorado
MCCORMICK WOODS GOLF COURSE	Port Orchard, Washington
MONARCH CLUB	Dallas, Texas
MONTGOMERY COUNTRY CLUB	Bakersfield, California
MONTREUX GOLF & COUNTRY CLUB	Reno, Nevada
NATIONAL GOLF CLUB	Houston, Texas
OAK TREE COUNTRY CLUB	Edmond, Oklahoma
PASADERA COUNTRY CLUB	Monterey, California
PELICAN LAKES GOLF & COUNTRY CLUB	Windsor, Colorado
PGA WEST	La Quinta, California
PLUM CREEK GOLF AND COUNTRY CLUB	Castle Rock, Colorado
PRESCOTT COUNTRY CLUB	Prescott, Arizona
PUEBLO DEL SOL	Bakersfield, California
RANCHO VISTOSO	Tempe, Arizona
RED ROCK COUNTRY CLUB	Las Vegas, Nevada
RITZ-CARLTON RANCHO-MIRAGE	Rancho Mirage, California
RIVERSIDE GOLF CLUB	Bakersfield, California
ROARING FORK	Basalt, Colorado
SADDLE CREEK	Copperopolis, California
SEMAHMOO RESORT	Blaine, Washington
SILVER CREEK VALLEY COUNTRY CLUB	San Jose, California
SNOWMASS CLUB	Snowmass Village, Colorado
SOUTHERN HIGHLANDS GOLF CLUB	Las Vegas, Nevada
SPORTS CLUB	Scottsdale, Arizona
STONEBRIAR COUNTRY CLUB	Frisco, Texas
STONERIDGE GOLF CLUB	Blanchard, Idaho
THE SANTALUZ CLUB	Rancho Santa Fe, California
THE STONE CANYON CLUB	Tucson, Arizona
SUPERSTITION MOUNTAIN GOLF CLUB	Scottsdale, Arizona
SYCAMORE RANCH	Temecula, California
TEHAMA GOLF CLUB	Carmel, California
TEMEKU HILLS	Temecula, California
WAIAWA COUNTRY CLUB	Oahu, Hawaii
YELLOWSTONE CLUB	Big Sky, Montana

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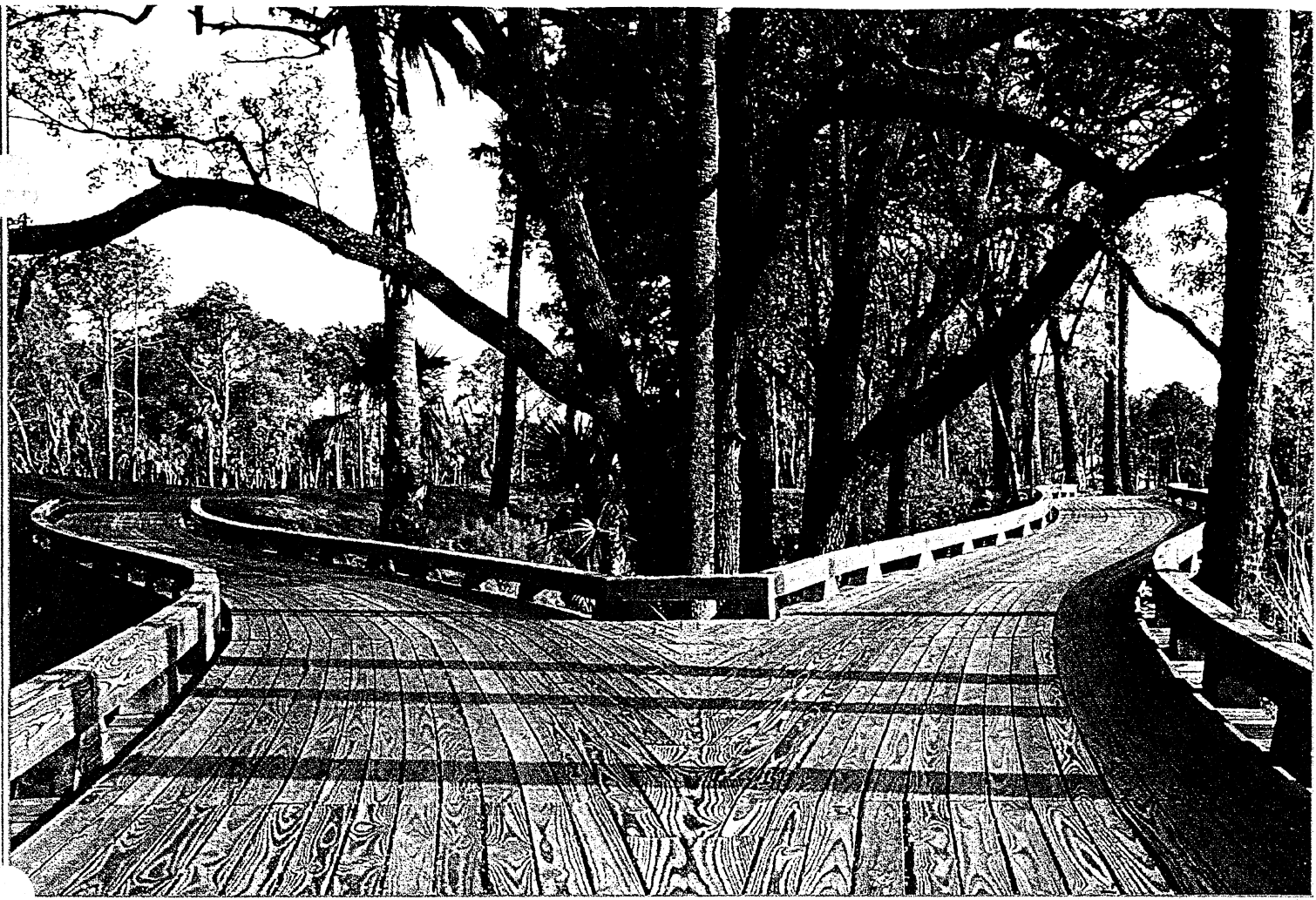
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## INTERNATIONAL

CLIFTON CAY CLUB	New Providence, Bahamas
CLUB QUINTA DO PERU	Lisbon, Portugal
DOMAINE DE GRANGENEUVE	Cote D'Azur, France
DORADO DEL MAR	San Juan, Puerto Rico
EL CONQUISTADOR	Santurce, Puerto Rico
ISLA NAVIDAD	Guadalajara, Mexico
LAGUNA DEL MAR	Sonoro, Mexico
MORGAN'S POINT	Southampton, Bermuda
OLD BAHAMA BAY	West End, Bahamas
PALMAS DEL MAR	Humacao, Puerto Rico
PARQUE VALLE DEL SOL	Porto Alegre, Brazil
PUERTO DEL REY	Fajardo, Puerto Rico
REAL DE LAGOS	Lomas de Chapultepec, Mexico
RESIDENSEA	Oslo, Norway
RIO MAR	Palmer, Puerto Rico
ROYAL WESTMORELAND GOLF CLUB	St. James, Barbados
SUGAR HILL	St. James, Barbados
TIERRA DEL SOL	Aronjestad, Aruba
VIRA VIRA	Barquismeto, Venezuela
WESTWOOD PLATEAU	Vancouver, Canada

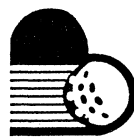
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*Innovative approaches can make the most out of environmental challenges.*

Love Enterprises has simplified and streamlined the golf course design and construction process. We truly deliver a turn-key product. Our team has overlapping experience, crossing the lines between design, construction and project management offering a service that will give you a course to be proud of.



**LOVE**  
ENTERPRISES  
AND ASSOCIATES, INC.

LOVE ENTERPRISES AND ASSOCIATES, INC.

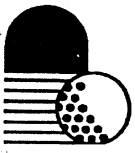
P.O. Box 20344

St. Simons Island, GA 31522

912-638-6051 • FAX 912-638-7728



*Mark and Davis Love III.*



# LOVE

ENTERPRISES  
AND ASSOCIATES, INC.

Post Office Box 20344 • St. Simons Island, Georgia 31522 • 912-638-6051 • FAX: 912-638-7728

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## **Love Enterprises and Associates, Inc.**

Love Enterprises and Associates, Inc. is a golf course design and project management company that was formed in 1994 by PGA touring professional Davis Love III and his brother Mark Love. Their goal with this company can be simply stated - *to design/build high quality golf courses that fit with the individual needs of each owner/developer, and to do so in the most economical manner possible, so that every project is given the greatest opportunity to succeed.* To that end, Davis and Mark Love have put together a team of professionals with more than 60 years of combined experience in both the golf and construction industries. This 'team' ensures that Love Enterprises is able to handle just about every aspect of the design/build process.

The Love Enterprises design team of Davis Love III, Mark Love, Bob Spence and Paul Cowley combine their experience to create courses that blend naturally with the land. Love Enterprises has a firm commitment to the environment and to preserving the land in its natural state by designing courses that compliment the existing terrain. The company, based in St. Simons Island, Georgia, has completed five golf courses and currently has two additional courses under construction. Love Enterprises is gaining a reputation in the design industry for creating challenging, yet playable, enjoyable golf courses that are built within budget and on time.

**Davis Love III** brings celebrity stature and golf expertise to the design team. As one of the PGA Tour's most successful players, he has twenty-three career victories including in 1992, The Players Championship and the 1997 PGA Championship held at the Winged Foot Golf Club. Having played great golf courses all over the world, Davis has been exposed to just about every type of golf course architecture. He appreciates the traditional designs and considers Donald Ross and A.W. Tillinghast as two of his favorite architects. Davis has been a serious student of golf all his life and has definite ideas about what makes a golf course great.

**Mark Love** brings great golf knowledge as well as business acumen to the group. Being exposed to the game at an early age with his father, Davis Love, Jr., Mark has learned the game well. He has been a golf instructor with the Golf Digest Learning Center at Sea Island and spent the better part of six years caddying for Davis on the PGA Tour. He played golf for the University of North Carolina and Valdosta State College where he earned a degree in communications. Mark managed the operations of a golf shaft distribution company before dedicating himself to the golf course design business.

## Love Enterprises & Associates, Inc.

### Employee Profiles

Love Enterprises and Associates, Inc. is a golf course design and construction management company. By combining design, construction and project management our unique team can produce a product that is affordable and aesthetically pleasing.

The team members, Davis Love III, Mark Love, Paul Cowley, Bob Spence, Pat Shelnett and John McKenzie all bring experience from very different areas and combine their experience to create courses that blend naturally with the land.

Davis Love III brings celebrity stature and golf expertise to the team. Davis has been one of the PGA Tour's most successful players. In 1992 he won six tournaments including The Players Championship, the MCI Heritage Classic and the Kmart Greater Greensboro Open. In 1995 Davis won the Freeport-McRan Classic earning his spot for the Masters where he finished in second place. 1996 Davis won the Buick Invitational. Won his second Lincoln-Mercury Kapalua International by three strokes. He earned his first major the 1997 PGA Championship at Winged Foot Country Club. In 1998 Davis won the MCI Heritage Classic for the third time and the Chunichi Crowns. Davis is a member of the PGA Tour Policy Board.

Having played great golf courses all over the world, Davis has been exposed to every type of golf course architecture. He has been a serious student of the game all his life and has definite ideas about what makes a golf course great.

Mark Love also bring knowledge of golf as well as business acumen to our team. Mark and Davis growing up with their father Davis Love, Jr., a renowned golf instructor and tour professional, were exposed to golf at a young age. Mark has worked as a golf instructor with the Golf Digest Learning Center. He also caddies for Davis on the PGA tour and they share the same vision as to what makes a course exceptional. Mark has a degree in communications from Valdosta State College and has run a golf shaft distribution company before dedicating his time to the golf course design business. During the design and construction process, Mark makes periodic site visits overseeing development of the golf course.

Bob Spence, formerly with Kemper Sports Management, brings many years of experience in the design, construction and management of golf courses to the team. With over 35 years of experience in the field of golf, Bob is considered one of the true experts in the business today. He is a former player on the PGA Tour and a winner of numerous South East Regional tournaments. Following his professional playing career Bob ventured into golf course design and construction, building over seven courses from start to finish including two courses on Hilton Head Island. He has also been involved in the consulting and remodeling of over twenty other courses. In addition, Bob is a nationally recognized golf instructor with a resume that includes a five year tenure with Golf Digest Instruction Schools. Bob also has extensive experience in Golf Course Operations. He has held positions as pro-manager and golf course superintendent at numerous courses throughout his career.



Paul Cowley has over 25 years experience in land planning, design and construction and specializes in resort development. Paul also has a background in commercial and residential landscape and architectural, design and construction. His strong grasp of design combined with his drawing ability allows the design team to translate their ideas to paper, his construction experience helps those ideas become, practical golf courses. Some resort projects to his credit are the Sandestin Beach Resort in Destin, Florida, the Sea Palms Golf and Tennis Club on St. Simons Island, the Hampton Club on St. Simons Island in Georgia and the Fripp Island Resort on Fripp Island, South Carolina. Paul has been an avid golfer all his life and earlier in his career was a greens keeper at Pebble Beach. Also to Paul Cowley's credit are the Cabin Bluff Links in Georgia and Altamont Orchard Golf Course in N.Y.

Our office manager, Pat Shelnett, brings over 20 years of experience in bookkeeping, construction and financial management to the firm. She worked in the banking industry for 10 years, specializing in Investments and Loans. Pat has had a Georgia Real Estate license since 1986. For the last 16 years she has worked in general construction providing all administrative functions from Payroll and General Ledger to Construction Coordination and Project Job Cost & Management. Her abilities and experience help each project to come together smoothly.

Love Enterprises as a team have a firm commitment to preserving the land in its natural state by designing a course that will complement the existing terrain. We want to go back to a time when a golf course was sculpted to fit the land and work in harmony with it. Past designers envisioned a course by walking the land. They had to make the course design fit the land, not make the land fit the plan. This return to a '*traditional*' style course is revived and improved with the use of new materials and technology. This requires less time spent changing the face of the land and more time spent in the field incorporating the natural characteristics of the land into the golf course design. By returning to this approach we can build an outstanding and cost effective golf course. We believe it is equally important to build golf courses that can be enjoyed by everyone - no matter their age, ability or interest level.

Love Enterprises has streamlined the golf course design and construction process. Our team has overlapping experience crossing the lines between design, construction and project management. Because of this we truly deliver a turn-key product with every phase of the golf course operation considered.



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## Project List

### Completed Projects

- 1) Ocean Creek Golf Course (Resort) Fripp Island, SC; The Fripp Company
- 2) Laurel Island Links (Municipal) Kingsland, GA; City of Kingsland
- 3) Cabin Bluff (Short Course) Camden County, GA; Sea Island Company
- 4) Eagle's Pointe Golf Club (Daily Fee) Hilton Head, SC; Linkscorp
- 5) Windermere (Semi-Private) Cumming, GA; Terrabrook
- 6) Barefoot Landing Resort and Golf Club (Resort) North Myrtle Beach, SC

### Projects Under Construction

- 1) Shell Landing ( Daily Fee) Biloxi, MS, Shell Landing Development, Inc.
- 2) Anderson Creek Golf Club (Daily Fee) Fayetteville, NC; Anderson Creek Golf Club, LLC

### Renovations

Wilshire Country Club (Private) Los Angeles, CA

### Projects Under Contract

- 1) Legends Ridge (Private) Nashville, TN; Legends Properties, Inc.
- 4) The Preserve at Jordan Lake (Daily Fee) Caple Hill, NC; Bluegreen Golf.
- 3) The Pinnacle (Daily Fee) Gastonia, NC; Pinnacle Resource Group.
- 4) Retreat Course (Resort / Private) St. Simons Island, GA 31522; Sea Island Company
- 5) Governors Club (Semi-Private) East Lansing, MI; North American Equities

## Introduction and Biography Edwin H. McMullen, Sr. RRP

Edwin H. "Ed" McMullen, Sr. RRP (Registered Resort Professional) is the senior partner of Edwin H. McMullen & Assoc., a Vacation Ownership development and consulting company headquartered in Orlando, Florida.

Ed has been active in the vacation ownership business since 1977 when he formed the American Resorts Group of Companies. He and his companies have pioneered many of the design, marketing, sales, financing, and operational systems employed by the vacation ownership industry worldwide. The American Resorts Group was merged with the Marriott Corporation in 1984 forming Marriott Ownership Resorts, Inc. [now named Marriott Vacation Club International], bringing the first international hospitality company into the timesharing business. Ed served as Executive Vice President of Marriott (MORI) from 1984 to 1991 and was responsible for strategic planning, product development, marketing and sales. During this time, Marriott became the world's leader in vacation ownership sales and continues this status through year 2000.

In 1992 Ed formed Hilton Grand Vacations Company, a 50/50 joint venture with Hilton Hotels Corporation. From 1992 to 1996, he served as Managing Director of Hilton Grand Vacations Company (HGVC) and developed a system of seventeen resorts. As planned under the original joint venture agreement, Ed sold his interest in HGVC to Hilton Hotels Corp. in June of 1996.

In 1997 Ed joined as Managing Director of Shell Vacations LLC developing resorts in Hawaii, California, Arizona, and Canada under the Shell Vacations Club brand. Completing his Shell Vacations LLC assignment in August 2000. Ed is now the senior partner of Edwin H. McMullen & Assoc.

Ed has been an active leader and visionary of the timesharing industry for over 24 years. He is the immediate Past Chairman of the American Resort Development Assn. (ARDA), is past Chairman of its National Timesharing Council, and serves as a Founding Director and Vice President of the ARDA International Research Foundation. In April 2000 Ed received ARDA's highest recognition, the "Lifetime Achievement Award" for his long and distinguished service to the resort and vacation ownership industries. Currently, Ed serves as Chairman of the Vacation Ownership Council of the American Hotel & Motel Assn. and is a member of the Urban Land Institute (ULI) and serves on its Recreational Development Council (RDC). He is a board member of the African Collection, Ltd. a timesharing company with 26 resort parks throughout Africa with headquarters in Johannesburg, South Africa. He is a founding member and the ARDA representative of GATE (Global Alliance for Timeshare Excellence) and a frequent speaker at both national and international events.

Ed is married to Pamela Temples McMullen, owner-operator of Pamela Temples Interiors (PTI) one of the most recognized and awarded national and international interior design firms.

Ed and his resort developments in the hotel and timesharing industries have received numerous national and international awards and recognition.

RCI Consulting uses the complementary strengths of its principals, Richard L. Ragatz, Ph.D., and John F. Sweeney—and the vast resources of its parent company, RCI—to help resort developers, hospitality management companies and financial institutions achieve success and profitability in the vacation ownership business.

RCI Consulting's research superiority is led by Richard L. Ragatz, Ph.D., a highly respected market researcher and feasibility analyst specializing in recreational real estate. He earned his doctorate from Cornell University with an emphasis in urban and regional planning and research methods. Dr. Ragatz has participated in more than 1,000 national and international research and consulting studies in 46 states and 26 countries.

John F. Sweeney is the industry's acknowledged authority on the development, marketing, sales and management of vacation ownership properties. His career spans more than 30 years in resort development, including experience in land sales, design, development and construction, strategic planning, and sales and marketing. He has served more than 200 resort clients in 32 states and 19 countries.

Whether you're interested in applied market research, industry studies, community economic impact analyses, resort feasibility analyses, strategic planning, or marketing and sales management, RCI Consulting can provide you with the services that will help better ensure the profitability of your vacation ownership venture.



RCI CONSULTING IS ONE OF  
THE FIVE INTEGRATED  
COMPANIES OF RCI  
(RESORT CONDOMINIUMS  
INTERNATIONAL), THE  
WORLD'S LARGEST VACATION  
EXCHANGE COMPANY.  
RCI CURRENTLY BOASTS  
MORE THAN TWO MILLION  
MEMBER FAMILIES AND  
THE INDUSTRY'S MOST  
EXTENSIVE EXCHANGE  
NETWORK OF MORE THAN  
3,000 AFFILIATED RESORTS.  
NO OTHER ORGANIZATION  
OFFERS A BROADER RANGE  
OF SERVICES OR MORE  
FIRSTHAND EXPERIENCE.

The vacation ownership industry is dynamic, progressive and poised with unlimited potential for growth. To be successful, you need the expertise of an innovative company that understands the nuances of the business and can help you capitalize on opportunities. That company is RCI Consulting.

RCI Consulting provides successful strategies for developing, marketing and managing vacation ownership properties. Serving the needs of developers, sales and marketing companies, financial institutions and public agencies, RCI Consulting is the source for authoritative answers for all facets of the vacation ownership business.

Under the leadership of Richard L. Ragatz, Ph.D., and John F. Sweeney, two of the industry's leading experts, RCI Consulting offers an unparalleled breadth of services—from start-up to sales and marketing to management. By providing reliable and current market information, thorough analyses, and result-oriented sales and marketing solutions, RCI Consulting enhances your success.



# RENTTEW

ENGINEERING & SURVEYING P.C.

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PROVIDING CREATIVE, COST-EFFECTIVE  
AND ENVIRONMENTALLY SENSITIVE  
SOLUTIONS TO INFRASTRUCTURE NEEDS

**Air Quality**

**Compliance/Strategy**

- Analysis/Interpretation of Regulations
- Auditing for Compliance Assurance
- Development of Compliance Strategy
- Dispersion Modeling
- Emission Reduction Credits
- Off-Site Consequence Analysis for Chemical Releases
- Preparation of Risk Management Plans for Section 112(r) Compliance

**Permitting/Reporting**

- Annual and Quarterly Emission Reporting
- Development of Process-Specific Emission Factors
- Emission Inventory Preparation
- Permitting (Plan Approvals, Operating Permits, NSR, PSD)
- Regulatory Agency Coordination and Negotiation
- SARA 312 and 313 Reporting

**Engineering Analyses/Design**

- Conceptual and Detailed Engineering of Air Pollution Control Systems
- Control Technology Analyses (BACT, LAER, MACT, RACT)
- Design of Ventilation Systems for In-Plant Dust/Odor Control
- Evaluation of Effectiveness of Existing Pollution Control Devices
- Testing/Evaluation of Existing Industrial Ventilation Systems

**Applied Ecology Studies**

- Environmental Impact Assessments
- Government Services
- GPS Mapping and GIS Analysis of Resources
- Lake and Watershed Management
- Natural Resources Investigations: Rare and Endangered Species, Stream Quality, Vegetation, Wildlife
- Nature Park Planning Design
- NEPA Analysis for Cellular Communications Projects
- Stream and Water Quality Assessments
- Transportation Related Environmental Services
- Wetlands Identification, Delineation, and Mitigation
- Bioengineering and Stream Restoration

**Civil / Municipal Engineering**

**Municipal Engineering:**

- Act 537 Planning
- Bridge/Culvert Design and Engineering
- Comprehensive Plans
- Computer Support
- Design/Build Engineering and Construction Inspection
- Grant Preparation
- Geographic Information Systems (GIS)
- Ordinance Preparation
- Plan Review Services
- Stormwater Management and Drainage Design
- Traffic and Transportation Engineering
- Zoning Administration Services

**General Civil Engineering:**

- Building Expansions
- Facility Management, using GIS
- Lighting Plans
- Parking Lot Design
- Permit Preparation
- Site Engineering
- Stormwater Management
- Traffic Circulation Improvement

**Community Planning**

**Effective Community Planning:**

- Agricultural Preservation
- Demographic Studies
- Growth Management Strategies
- Municipal Comprehensive Plans
- Sewage Facilities (Act 537) Plans
- Fiscal Impact Studies
- Grant Application and Assistance
- Impact Fee Analysis
- Utility Rate Analysis
- Recreation, Park, and Open Space Plans
- Regional Comprehensive Plans
- Strategic and Capital Improvement Planning

**Meaningful Public Involvement:**

- Advisory Group Involvement
- Focus Group Facilitation
- Newsletter Preparation
- Public Opinion Surveys
- "Resident-Driven" Planning Processes

**Ordinance Preparation and Support:**

- Floodplain Management Ordinances
- Growth Management Ordinances
- Natural Features Conservation Ordinances
- Open Space Development Ordinances
- Planned Residential Development Ordinances
- Stormwater Management Ordinances
- Subdivision/Land Development Ordinances
- Zoning Ordinances

## Computer / Technology Support

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- Assistance with Purchasing Hardware and Software
- CADD Operations Support
- Computer Support for Set Up and Maintenance of Hardware and Software
- Computer Systems Needs Analyses and Troubleshooting
- Project Management for Technology Projects
- Training in Novell GroupWise and ESRI ArcView
- Unbiased Hardware Recommendations
- User-friendly Hypertext Documents and Ordinances
- Web Site Development for the Internet and Intranet

## Construction Management

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- Bidding Services
- Construction Scheduling
- Construction Observation
- Contract Administration
- Shop Drawing Review
- Material Sampling and Testing
- Estimates of Probable Cost
- Contractor Performance and Requisitions

## Contract Operations

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- Calibration and Maintenance of Plant Equipment
- Design/Build Engineering
- Facility Optimization and Operations
- Management Assistance
- Monitoring Treatment Regulations and Compliance Requirements
- Permitting Assistance
- Reporting/Documentation
- Sampling to Comply with Pretreatment Requirements and Plant Control
- Treatment Upgrade/Modification/Assistance/Guidance
- Treatment Compliance

## Environmental Investigation and Remediation

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- ASTM-based Environmental Site Assessments
- Air Quality Services
- Act 2 (Pennsylvania) Closure/Remediation
- Asbestos-Containing Materials (ACM) Surveys and Assessments
- Brownfield Properties Inventory, Assessment, and Grant Applications
- Ecological Investigations and Risk Assessments
- Environmental Impact Statements
- Environmental Risk Assessments
- Endangered Species Surveys
- Expert Witness Testimony/Technical Litigation Support
- Feasibility Studies
- Groundwater Availability Studies
- Groundwater and Stormwater Sampling
- Hydrogeologic Investigations/Modeling
- Industrial/Commercial/Municipal Water Supply, Well Siting, and Permitting
- Monitoring Well Design
- Nutrient Management Plans
- Sinkhole Investigations and Remediation
- Site Characterizations
- Soil Vapor Surveys
- Source Reduction Strategies and Plans
- Underground Storage Tank Closure
- Wellhead Protection Area Delineation
- Wetlands Identification, Delineation, and Mitigation

## Environmental Permitting and Compliance

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- Compliance Audits
- Feasibility Studies
- Industrial Waste Treatment and Pre-Treatment Facilities Design
- Permit and Permit Reporting Preparation
- PPC and SPCC Plans
- Remedial System Design for Contaminated Soil, Groundwater, and Acid Mine Drainage
- Risk Assessments
- Third Party Reviews
- Value Engineering

## Geographic Information Systems (GIS)

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### RETTEW's GIS Services Support:

- Environmental Management and Impact Analysis
- Infrastructure Management for Water and Wastewater Systems
- Internet Applications
- Municipal Planning, Zoning, and Tax Assessment
- Traffic Analysis and Streets Management

### Benefits of RETTEW's GIS Solutions:

- Access the information you need immediately
- Attach images, video clips, and sound to your maps
- Compile field data and inspection results
- Conduct preventive maintenance programs
- Develop and maintain complete inventories of your infrastructure
- Develop tools for planning
- Keep your mapping current
- Put your GIS on the Internet

## Geotechnical and Foundation Engineering

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- Subsurface Exploration Techniques: Standard Penetration Test Borings, NX/NQ Conventional and Wireline Rock Drilling, and In-situ testing
- Non-Destructive Testing
- Foundation Analyses
- Observation/Instrumentation

## Global Positioning Systems (GPS) Surveys

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- Equipment Rental (certain conditions apply)
- Geodetic Control (carrier phase cm accuracy)
- GIS Densification (code/carrier)
- GPS Videologging
- Kinematic
- PATHFINDER GPS (code)
- Route Surveys
- RTK
- Training
- Precision Airborne GPS



## HAZMAT Surveying

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- Airborne GPS Videologging for Historical Records
- CADD Generated Drawings
- Construction Stakeout
- Cut and Fill Computations
- Deed Research and Plotting
- Field Boundary and Topographic Surveys
- GIS Mapping
- GPS (carrier phase) Surveys for Horizontal and Vertical Control
- Post-excavation Topographic Surveys
- Site Computations

## Land and Construction Surveying

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- Boundary Surveys
- Topographic Surveys
- ALTA Surveys
- Hydrographic Surveys
- Geodetic Control
- Construction Stakeout
- Site Computations
- Cut and Fill Computations

## Land Development / Site Engineering

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### Primary Services:

- Boundary and Topographic Surveys
- Civil Engineering
- Construction Drawings/Specifications
- Cost Opinions
- Erosion and Sedimentation Control Plans and Permitting
- Feasibility Studies/Master Plans
- Land Development Plans
- Landscape Architecture/Landscape Plans
- Layout and Grading Plans
- Parks, Recreation, and Open Space Planning
- School and Campus Planning
- Site Lighting Plans
- Sketch/Concept Plans
- Stormwater Management
- Subdivision Plans
- Traffic Studies/Road and Highway Design/Signalization
- Water and Wastewater Collection and Conveyance

### Additional Services:

- As-Built Surveys
- Condominium/Declaration Plan Preparation
- Construction Administration/Observation
- Construction Stakeout
- DEP Permitting
- Highway Occupancy and Utility Crossing Permitting
- Hydrogeologic and Groundwater Quality Availability
- Wetlands Identification, Delineation, and Mitigation

## Mechanical / Electrical Engineering

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### Mechanical Engineering:

- Building Heating, Ventilating, and Air Conditioning
- District Heating/Cooling Systems
- Energy Management
- Fire Protection
- Heat Recovery
- Indoor Air Quality
- Industrial Ventilation
- Plumbing
- Process Piping

### Electrical Engineering:

- Power Distribution to 69JV
- Power System Studies
- Emergency Power Systems
- Power Conditioning/U.P.S.
- Instrumentation and Control
- Interior Lighting
- Site and Landscape Lighting
- Grounding Systems
- Lightning Protection

### Technology Services:

- Telephone/Data Infrastructure
- Electronic Media Centers and Distribution
- Fire Detection, Annunciation, and Monitoring
- Security, Access Control, and Surveillance
- Sound, Paging, and Intercom Systems
- Technology Plans
- Integrated Systems

## Stormwater Management

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- Channel Improvements
- Culvert Design
- Detention/Retention Basin Design
- Erosion and Sedimentation Control Plans
- FEMA Map Revisions
- Floodplain Studies
- Hydraulic Analyses of Bridges
- Hydraulic and Hydrologic Studies for DEP and Army Corps of Engineers Permitting
- NPDES Stormwater Discharge Permits
- Regulatory Agency Coordination
- Solutions to Existing Stormwater Related Problems
- Stormwater Conveyance Facilities
- Stormwater Feasibility Studies
- Stream Crossings
- Underground Detention Facilities
- Watershed Analyses

## Structural Engineering

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- Building Structures Design
- Civil Works Structural Design
- Forensic Investigations
- Geotechnical Engineering
- Highway Bridge Structures Design
- Industrial Structures Design
- Pedestrian Bridge Structures Design
- Pre-Engineered Buildings Foundation Design
- Rehabilitation and Repair Recommendations

## Traffic Engineering

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- Coordinated Traffic Signal Systems
- Expert Testimony
- Funding Applications for Municipalities
- Geometric and Capacity Improvements
- Highway Occupancy Permits
- Impact Analysis/Design
- Intelligent Transportation Systems (ITS)
- Maintenance and Protection (M&P) of Traffic Plans
- Noise Analysis and Barrier Design
- Parking Lot Designs
- Parking Studies and Design
- Pavement Design/Analysis
- Pavement Markings
- PennDOT Driveway Permits
- Public Meeting and Hearing Presentations
- Right-of-Way
- Roadway Reconstruction
- Speed Studies
- Traffic Counts and Data Collection
- Traffic Impact Studies and Analysis
- Traffic/Signage Studies
- Traffic Signal Designs

## Transportation Engineering Design

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- Bridge/Culvert Design
- Driveway Permits
- Environmental Documentation and Clearances
- Erosion and Sedimentation Control
- Field Surveys
- Geometric Improvements
- Highway/Roadway Design
- Hydraulics and Drainage Design
- Parking Studies and Design
- Pavement Markings
- Public Involvement
- Right-of-Way
- Signage Studies
- Signing
- Speed Studies
- Structural Design
- Traffic Counts and Data Collection
- Traffic Impact Studies and Analysis

## Transportation Environmental Analysis

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- Agency Coordination Meeting (ACM) Presentations/Workshops
- Agricultural Lands Condemnation Approval Board (ALCAB) Hearing Presentations
- Air Quality Studies
- Endangered Species Studies/Ecological Assessments
- Environmental Clearance Document Preparation (Categorical Exclusion Evaluations, Environmental Assessments, and Environmental Impact Statements)
- Floodplain Studies
- Geological Investigations
- GIS/GPS Applications for Alternate Development and Assessment
- Habitat Assessments using HEP and PAMHEP
- Hazardous Waste Investigations
- Land Use & Socioeconomic Analysis
- Permit Coordination
- Public Meeting and Hearing Presentations
- Section 4(f) Documentation
- Terrestrial Mitigation Design
- Training
- Underground Storage Tank Investigations/Remediation
- Visual Impact Analysis
- Water Quality Analysis
- Wetlands Construction/Post Construction Monitoring
- Wetlands Identification/Delineation; WET 2.1
- Wetlands Mitigation/Design/Construction

## Water and Wastewater Engineering

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- Compliance Consultation
- Computer/Hydraulic Modeling
- Design/Build Services
- Field Testing
- Funding/Financing Applications Assistance/Guidance
- Groundwater Availability Studies
- Hydrogeologic Studies
- Infiltration/Inflow Analysis
- Inspections and Certifications
- Permit Applications/Renewals/Reporting
- Pretreatment Design/Evaluations
- Public Water Wells
- Rate and Tapping Fee Analyses/Assistance
- Wastewater Collection/Conveyance/Treatment
- Water Distribution & Treatment
- Wellhead Protection Area Delineation

RETTEW offers clients a wide range of services to assist them with their air quality needs. Whether called upon to provide valuable advice to smaller facilities without dedicated environmental personnel, or to supplement larger environmental staffs with timely assistance for unique situations, RETTEW professionals are always eager to help. Clients benefit from the knowledge and past experiences of our staff in working through air quality issues, whether those issues are related to regulatory compliance, strategy development, engineering, permitting or reporting requirements.

RETTEW's air quality professionals provide expertise in the following areas:

### Compliance/Strategy

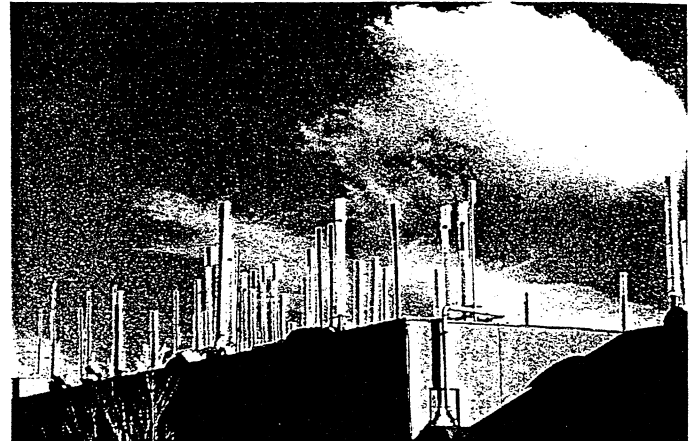
- Analysis/Interpretation of Regulations
- Auditing for Compliance Assurance
- Development of Compliance Strategy
- Dispersion Modeling
- Emission Reduction Credits
- Off-Site Consequence Analysis for Chemical Releases
- Preparation of Risk Management Plans for Section 112(r) Compliance

### Permitting/Reporting

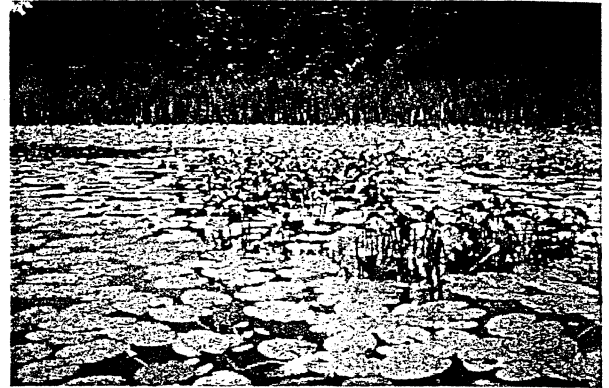
- Annual and Quarterly Emission Reporting
- Development of Process-Specific Emission Factors
- Emission Inventory Preparation
- Permitting (Plan Approvals, Operating Permits, NSR, PSD, etc.)
- Regulatory Agency Coordination and Negotiation
- SARA 312 and 313 Reporting

### Engineering Analyses/Design

- Conceptual and Detailed Engineering of Air Pollution Control Systems
- Control Technology Analyses (BACT, LAER, MACT and RACT)
- Design of Ventilation Systems for In-Plant Dust/Odor Control
- Evaluation of Effectiveness of Existing Pollution Control Devices
- Testing/Evaluation of Existing Industrial Ventilation Systems



Society is beginning to recognize that natural resources, conservation and economic growth are not mutually exclusive. In fact, a thriving economy depends upon a healthy environment. Applied Ecology focuses on the interactions between natural resources. As a discipline, Applied Ecology assists society by providing methods for environmentally sound growth and management, and by providing the framework to analyze and solve real world environmental problems. In response to this need, RETTEW offers clients a unique team of ecologists with advanced academic training, hands-on experience, and outside research interests in both terrestrial and aquatic ecology, all within its context of a broad-based engineering consulting firm. Using various methods, the Applied Ecology group has performed wetland delineations in Maryland, New York, New Jersey, Ohio, Pennsylvania, and Virginia. We use our scientific expertise to help clients design projects and obtain the necessary permits. Our knowledge of wetland science and regulations, fortified with our integrity, has garnered RETTEW an excellent reputation with clients, as well as state and federal regulators.



Our staff is involved in helping formulate Pennsylvania wetland policy through participation on state advisory committees. Involvement in wetland research puts RETTEW at the forefront of these specialized services. Research is carried out on a number of wetland topics, including the ecology of vernal ponds, wetland insect populations, and development of the new hydrogeomorphic methods (HGM) for wetland functional assessment. Our position as leaders in wetland science and policy gives us additional resources to apply to meeting our clients' needs.

RETTEW offers broad capabilities and experience. We can:

- Analyze environmental impact and prepare Environmental Impact Statements and Assessments
- Assist governments in developing sound environmental regulations which protect vital natural resources while allowing responsible growth
- Delineate wetlands, design wetland mitigation plans, complete permit applications, and consult on wetland regulations
- Identify quality natural areas and design management plans to protect these dwindling features
- Search for populations of rare and endangered species and develop plans to protect them

Applied Ecology Services include:

- Environmental Impact Assessments
- Government Services
- GPS Mapping and GIS Analysis of Resources
- Lake and Watershed Management
- Natural Resources Investigations: Rare and Endangered Species, Stream Quality, Vegetation, Wildlife
- Nature Park Planning Design
- NEPA Analysis for Cellular Communications Projects
- Stream and Water Quality Assessments
- Transportation Related Environmental Services
- Wetlands Identification, Delineation, and Mitigation

## Municipal Engineering

Over 70 municipal entities presently rely on RETTEW for engineering and planning services. Some may have as few as 500 residents—others may count their population closer to 100,000. Local government officials turn to RETTEW for advice and assistance on a variety of issues, from funding sources and municipal representation to design for infrastructure improvements.

RETTEW's staff keeps pace with the ever-changing needs of local governments and focuses on issues that impact municipalities. We are active on professional committees such as the Legislative Affairs Committee of the American Society of Civil Engineers, the Consulting Engineers Council Committee on Municipal Services, and the Pennsylvania State Association of Township Supervisors. Our representation on these committees, combined with our long-term working relationships with agencies such as DEP, EPA, and various state DOTs, keep our engineering professionals continually up to date with issues which affect municipalities.



RETTEW specializes in the following technical areas for municipalities:

- Act 537 Planning
- Bridge/Culvert Design and Engineering
- Comprehensive Plans
- Computer Support
- Design/Build Engineering and Construction Inspection
- Flood Plain Delineations/Studies
- Geographic Information Systems (GIS) Development
- Grant Preparation
- Ordinance Preparation
- Plan Review Services
- Stormwater Management and Drainage Design
- Traffic and Transportation Engineering
- Zoning Administration Services

*"RETTEW does an excellent job of being proactive and anticipating needs."*

Steve Sawyer, Township Manager  
Ephrata Township

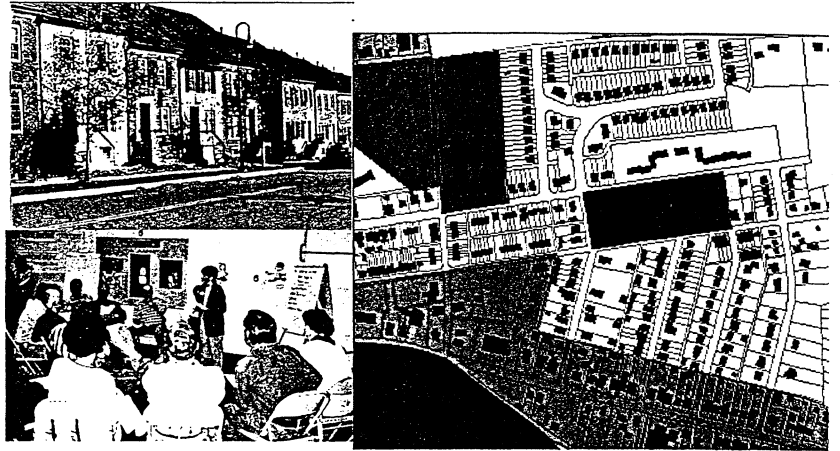
## General Civil Engineering

RETTEW's civil engineers also work extensively with colleges, universities, institutions and industries. Our engineers assist with the infrastructure needs of these facilities. Our engineers are able to take advantage of the rapport we've established with local officials and regulatory agencies to expedite the engineering and approval process for capital projects, such as:

- Building Expansions
- Traffic Circulation Improvement
- Facility Management, using GIS
- Lighting Plans
- Parking Lot Design
- Permit Preparation
- Site Engineering
- Stormwater Management

The mission of RETTEW's Community Planning team is to provide municipalities with superior guidance, services and tools which result in desirable patterns of conservation and development. Our experienced team of community planners understands the complex challenges which local governments face. We help communities respond to such challenges by empowering municipalities with innovative yet practical solutions.

Our professionals can assist you with:



### Effective Community Planning:

- Agricultural Preservation
- Demographic Studies
- Growth Management Strategies
- Municipal Comprehensive Plans
- Recreation, Park and Open Space Plans
- Regional Comprehensive Plans
- Strategic Planning

### Meaningful Public Involvement:

- Advisory Group Involvement
- Focus Group Facilitation
- Newsletter Preparation
- Public Opinion Surveys
- "Resident-Driven" Planning Processes

### Leveraging Technology to Provide Solutions:

- Geographic Information Systems (GIS)
- Information Management for Zoning and Permitting
- Infrastructure Management Using GIS
- Internet Web Site Development with GIS
- "Point & Click" (HTML) Plans & Ordinances
- Utility Mapping Using Global Positioning Systems

### Ordinance Preparation and Support:

- Expert Witness Testimony
- Floodplain Management Ordinances
- Growth Management Ordinances
- Natural Features Conservation Ordinances
- Official Maps
- Open Space Development Ordinances
- Planned Residential Development Ordinances
- Stormwater Management Ordinances
- Subdivision/Land Development Ordinances
- Zoning Ordinances

### Understanding Infrastructure Needs:

- Capital Improvement Planning
- Sewage Facilities (Act 537) Plans
- Sewage Management Planning
- Transportation Planning

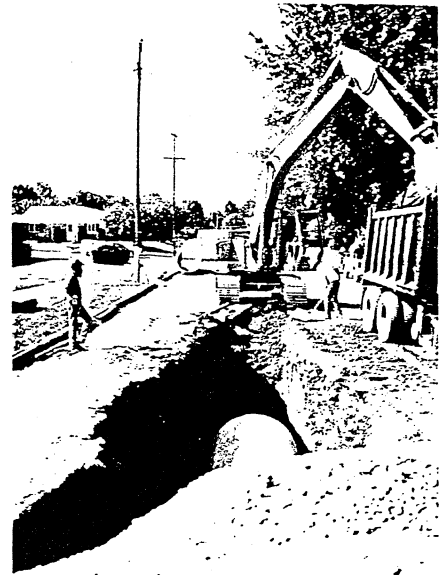
### Financial Services:

- Fiscal Impact Studies
- Grant Application and Assistance
- Impact Fee Analysis
- Utility Rate Analysis

RETTEW provides construction management services, based on decades of experience on a wide range of private and public sector projects. As the client's representative, our responsibilities include administration and observation of construction that ranges from verifying that the facility under construction meets all relevant codes, is being built to specification, and is being constructed in a safe manner.

RETTEW's staff has the combination of technical, management, and construction experience that gives them the ability to identify issues and provide innovative onsite solutions. Our wide range of services includes shop drawing review, onsite observations and management, construction progress scheduling, design adjustments, contract administration, material sampling and testing, and value estimations. We will also confirm contractor performance, assist in the preparation of monthly requisitions, assist in construction supervision, conduct reviews of construction materials and installation techniques, coordinate scheduling, contracts and subcontractors, provide testing, utilities coordination and be onsite to provide day-to-day troubleshooting.

RETTEW's construction management projects encompass several industries and range from power facilities to water/wastewater systems, maintenance buildings, warehouses, office buildings, recreational facilities, residential and commercial developments, restaurants, bridge construction, sinkhole repair, industrial expansions, dams, retirement communities and highways.



Environmental investigations cover a wide variety of needs and requirements, ranging from air quality investigations, environmental site assessments, hazardous waste, underground storage tanks, wellhead protection and asbestos to wetlands, ecology, and endangered species surveys. Media include air, surface water, groundwater, and soil. Consequently, investigations and subsequent remedial activities can be very complex. RETTEW has a highly experienced staff of professional engineers, geologists, ecologists and environmental scientists to develop innovative, cost-effective solutions to environmental challenges and help you implement those solutions. They are current with OSHA-certification for work at hazardous waste sites.



Our staff is familiar with the latest in technologies. They have a longstanding working relationship with state and Federal environmental regulatory agencies. This also enables our professional personnel to work easily and effectively with our clients' legal counsel in negotiations with regulatory agencies and, if necessary, in providing technical support and expert witness testimony in litigation as well. They are routinely involved in regulatory and legislative work groups to provide input and maintain awareness of potential regulatory changes. By actively participating in local and state Chambers of Commerce, trade, professional, and government organizations, our staff is able to maintain a high level of current knowledge about the markets and regulatory climate.

Services we provide include:

- ASTM-based environmental site assessments
- Air Quality Services
- Act 2 (Pennsylvania) closure/remediation
- Asbestos-containing materials (ACM) surveys and assessments
- Brownfield properties inventories, assessment, grants applications
- Ecological investigations and risk assessments
- Environmental impact statements
- Environmental risk assessments
- Endangered species surveys
- Expert witness testimony/technical litigation support
- Feasibility studies
- Groundwater availability studies
- Groundwater and stormwater sampling
- Hydrogeologic investigations/modeling
- Industrial/commercial/municipal water supply, well siting, and permitting
- Monitoring well design
- Nutrient management plans
- Sinkhole investigations and remediation
- Site characterizations
- Soil vapor surveys
- Source reduction strategies and plans
- Underground storage tank closure
- Wellhead protection area delineation
- Wetlands identification, delineation, and mitigation

Because RETTEW is a full-service consulting firm, we also can provide geotechnical and civil engineering support for remedial facilities siting, design and operation with in-house staff, as well as development and implementation of Nutrient Management Plans for Concentrated Animal Operators.

We firmly believe in and are committed to providing superior service to our clients. Our philosophy is one of partnering with our clients and the regulatory agencies. Partnership keeps everyone informed, allows the work to proceed efficiently, and results in success for our clients.



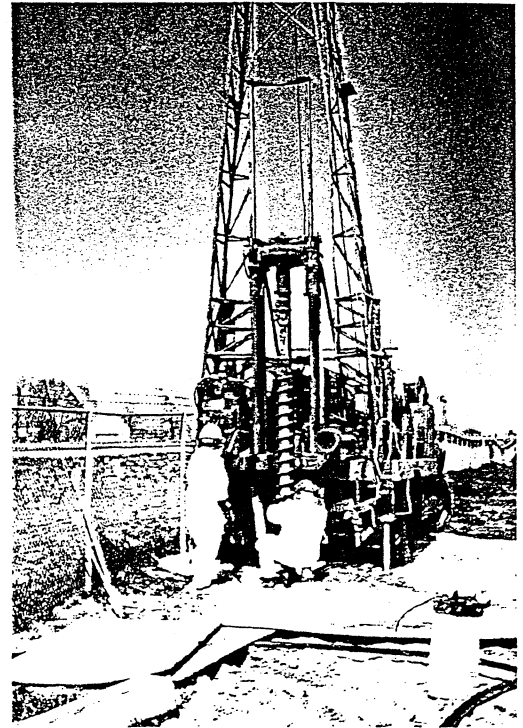
Environmental permitting continues to expand in scope and complexity. Compliance has become even more difficult with the ever-increasing numbers of programs, permits and reporting requirements at both the state and federal level. Even more importantly, the ramifications of failure to comply have become even greater – reduced productivity, lost profits, legal actions, adverse publicity, and negative reaction by today's more astute investors. RETTEW's experienced environmental professionals can provide the technical support and guidance required for preparing permit applications and helping you to maintain ongoing compliance. Our staff can also perform audits to determine if the necessary permits have been obtained, whether the required record-keeping is in place, and if required reports have been submitted – in short to determine if you are in compliance.

Our work with state and federal regulatory agencies has enabled us to develop a clear understanding of agency expectations. As a result our professional staff work effectively with clients' legal counsel in regulatory agency negotiations and, if necessary, in providing technical support and expert witness testimony in litigation. We participate in regulatory and legislative work groups to stay ahead of regulatory change in order to help our clients stay in compliance and manage their environmental affairs effectively. Most of our staff is certified to work at hazardous sites in compliance with OSHA Section 1910.120. RETTEW's environmental engineers, scientists, and geologists are available to help make your permitting issues less burdensome and compliance easier.

Services we provide include:

- Industrial waste treatment and pre-treatment facilities design
- Feasibility studies
- Remedial system design for contaminated soil, groundwater and acid mine drainage
- Compliance audits
- Risk assessments
- Permit and permit reporting preparation
- PPC and SPCC plans
- Third party reviews
- Value engineering

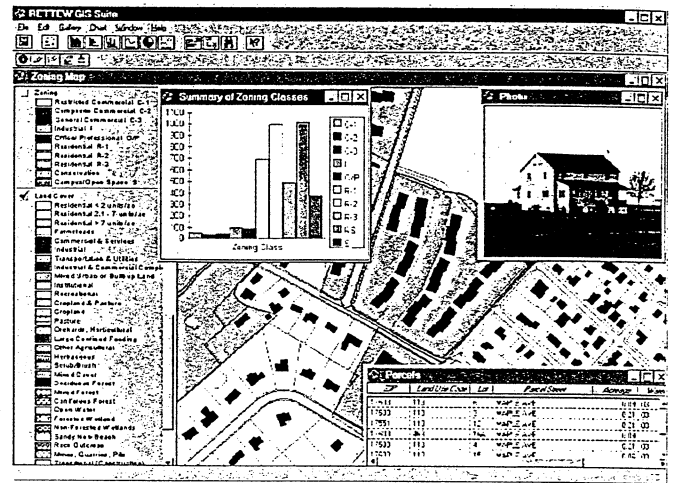
We are committed to providing superior, professional service and working with our clients as partners. Our clients and the regulatory agencies are routinely included as part of a working partnership. It keeps everyone fully informed, allows the work to proceed efficiently, and results in success for our clients.



Geographic Information Systems (GIS) technology is a powerful tool with numerous benefits. With proper planning, design, implementation, and maintenance, today's GIS solutions can provide benefits well into the future.

RETTEW employs the most efficient and most current technology available, including Workstation Arc/Info and ArcView GIS for Windows. RETTEW's philosophy is to help clients leverage technology for every possible advantage.

RETTEW is an Environmental Systems Research Institute (ESRI) Developer Business Partner and an authorized reseller of ESRI desktop software which includes ArcView GIS for Windows.



We help clients realize the benefits of GIS with custom tailored solutions, designed to meet your specific needs.

**RETTEW's GIS Services Support:**

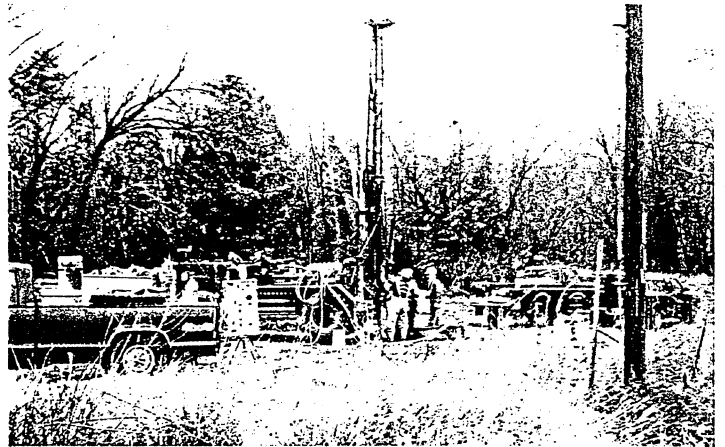
- Environmental Management and Impact Analysis
- Infrastructure Management for Water and Wastewater Systems
- Planning, Zoning, and Tax Assessment
- Traffic Analysis and Streets Management

**Benefits of RETTEW's GIS Solutions:**

- Access the information you need immediately
- Attach images, video clips, and sound to your maps
- Compile field data and inspection results
- Conduct preventive maintenance programs
- Develop and maintain complete inventories of your infrastructure
- Develop tools for planning
- Keep your mapping current
- Put your GIS on the Internet

RETTEW provides innovative, yet practical, solutions to geotechnical and foundation engineering problems for new and existing structures. We use routine methods, such as standard penetration test borings and NX/NQ rock coring, as well as advanced techniques such as in-situ testing, instrumentation, and geophysical surveys.

Our capabilities are completely mobile, using 4WD vehicles equipped with Global Positioning Systems (GPS) instrumentation, laptop computers with modems, cellular telephones and toll-free nationwide alphanumeric pagers, and an Internet site for e-mail ([rettew@rettew.com](mailto:rettew@rettew.com)) and data transfer. Thus equipped, RETTEW serves clients from Florida to New York, including state and local agencies, architects, structural engineers, developers, and contractors.



### **Subsurface Exploration Techniques:**

- In-situ testing using dilatometers and pressure meters for a direct evaluation of the engineering characteristics of the subsoil. This testing method permits a more rational foundation design. Field data is analyzed and provides the geotechnical parameters such as soil type, coefficient of earth pressure (at rest), preconsolidation pressure, undrained shear strength (for clays), angle of internal friction (for sands), and one-dimensional (constrained) modules.
- NX/NQ Conventional and Wireline Rock Drilling
- Standard Penetration Test Borings

### **Non-Destructive Testing:**

Through an exclusive arrangement, RETTEW can determine the length and integrity of existing pilings or drilled shafts using acoustic wave propagation. Unique to RETTEW is FDH's "dispersive wave" technology, where piles can be struck from the side, versus the top, for analysis of existing foundations.

### **Foundation Analyses:**

Using conventional drilling, in-situ testing, and/or nondestructive testing, RETTEW can analyze existing foundations for capacity to determine the potential for expanding existing buildings, bridges, towers, etc. In some cases, we have determined that certain foundations have reserve capacity of up to 50%, meaning that in some instances, foundation retrofits may not be a necessary part of the client's cost for expanding an existing structure.

### **Observation / Instrumentation:**

RETTEW has the capability to monitor or instrument buildings, support of excavation systems, retaining walls, slopes, or other work where movement is suspected. The technologies available for these analyses include inclinometers, tilt meters, and tape extensometers.

### Engineering Analyses:

RETTEW maintains highly qualified staff and state-of-the-art geotechnical engineering software, including:

- LPILE plus for lateral pile analyses, including nonlinear concrete pile response
- PCSTABL6 for slope stability analyses
- Proprietary software for geosynthetic slope reinforcement
- WEAP for wave energy pile analyses

RETTEW remains at the forefront of providing state-of-the-art Global Positioning Systems (GPS) solutions. Our surveyors are trained and experienced in the use of GPS equipment. Capabilities offered include DGPS, RTK surveys, and code-phase mapping—although the appropriate method is inevitably dictated by the terrain and obstructions specific to the surveying task. RETTEW surveyors follow the guidelines established by the Federal Geodetic Control Committee (FGCC) for GPS surveys and conventional geodetic control.

- Equipment Rental (certain conditions apply)
- Geodetic Control (carrier phase cm accuracy)
- GIS Densification (code/carrier)
- GPS Videologging
- HAZMAT Surveys
- Kinematic
- PATHFINDER GPS (code)
- Route Surveys
- RTK
- Training



### Precision Airborne GPS

To enhance the service we offer to telecommunication providers, utilities, and clients involved in administering roadway systems, RETTEW uses Precision Airborne GPS. By means of a helicopter, we can quickly and accurately locate horizontal and vertical features such as towers (telecommunication and transmission), especially in remote areas where access is difficult. Precision Airborne GPS reduces project time in the field, which translates directly into cost savings.

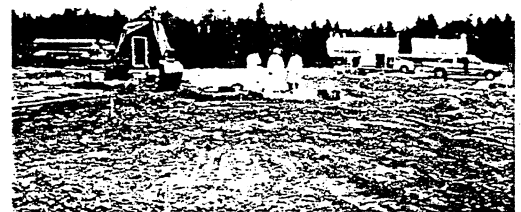
Precision Airborne GPS may also be used for videologging of features such as transmission lines, pipeline routes, and highways. Through videologging, a video is "tagged" with GPS coordinate values. This extremely valuable tool indicates features that may not show up on a map but may affect the ownership or conditions associated with a utility, pipeline, or roadway, e.g. encroachments or specific natural resources.

RETTEW provides specialized surveying services at sites designated as having hazardous materials (HAZMAT) by appropriate state and federal regulatory agencies such as Superfund Sites identified by the U.S. Environmental Protection Agency. We perform these HAZMAT surveying services for commercial, industrial, and professional clients.

RETTEW staff who provide these unique surveying services are required to have special certifications and training. We have field crews that are certified through the Occupational Safety and Health Administration (OSHA) training program. Each OSHA certified survey team member has completed the required instruction (40 hours under 20 CFR11910.120) and the annual 8-hour refresher course. These members are also involved with the required continuous medical monitoring program through Lancaster General Corporate Health Care.

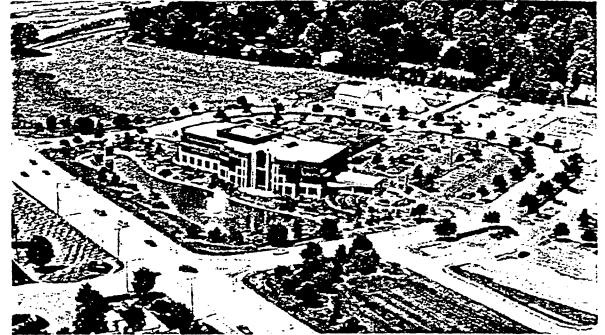
Typical HAZMAT surveying services include:

- Airborne GPS videologging for historical records
- CADD generated drawings
- Construction stakeout
- Cut and fill computations
- Deed research and plotting
- Field boundary surveys
- GIS mapping
- GPS (carrier phase) surveys for horizontal and vertical control
- Post-excavation topographic surveys
- Site computations
- Topographic surveys



## Commercial Development

RETTEW effectively coordinates its diverse disciplines to satisfy our client's needs. Our customer-driven philosophy produces a management system that provides a cost-effective approach from beginning feasibility studies through construction and marketing phases of the project. Our Land Development team is staffed by over 25 landscape architects, engineers, and designers who specialize in providing aesthetically pleasing, value-engineered projects. Land Development teams draw upon equally equipped groups within the firm for a wide range of expertise, such as wetlands identification, surveying, traffic engineering, and related services.



The land development process demands a thorough familiarity with a myriad of regulations and requirements created by government agencies, funding sources, authorities and special interest groups. RETTEW keeps clients abreast of a project's status every step of the way as it proceeds through regulatory channels. The client, architect, attorney, lender, and other members of the client's staff are involved and informed from the beginning of the review phase through final approval. We have demonstrated many times how effectively this approach facilitates timely input from all team members, promotes sound decisions, and expedites schedules.

RETTEW's proposals and subsequent client communications provide a road map which focuses on avoiding costly detours and delays, leading to successful project completion. Our full-service capabilities enable us to respond promptly and appropriately to unforeseen circumstances that may arise without subcontracting any necessary discipline. RETTEW possesses experienced manpower, capable of handling emergency situations without jeopardizing the project schedule.

### Land Development / Site Engineering Services

#### Primary Services:

- Boundary and Topographic Surveys
- Civil Engineering
- Construction Drawings/Specifications
- Cost Opinions
- Erosion and Sedimentation Control Plans and Permitting
- Feasibility Studies/Master Plans
- Land Development Plans
- Landscape Architecture/Landscape Plans
- Layout and Grading Plans
- Parks, Recreation and Open Space Planning
- School and Campus Planning
- Site Lighting Plans
- Sketch/Concept Plans
- Stormwater Management
- Subdivision Plans
- Traffic Studies/Road and Highway Design/Signalization
- Water and Wastewater Collection and Conveyance
- Zoning Requirements (special exceptions, variances, conditional uses, rezoning, etc.)

#### Additional Services:

- As-Built Surveys
- Condominium/Declaration Plan Preparation
- Construction Administration/Observation
- Construction Stakeout
- DEP Permitting
- Highway Occupancy and Utility Crossing Permitting
- Hydrogeologic and Groundwater Quality Availability
- Wetlands Identification, Delineation, and Mitigation

*"...RETTEW Associates, Inc. has been one of the most dedicated, professional firms with which I have done business... As a land-use planner, attorney, and corporate real-estate manager, RETTEW is the most capable, efficient, and well-managed firm that BJ's... has engaged as a land-use consultant."*

*J. David Simmons, Esq.  
Real Estate Administrative  
Manager, BJ's Wholesale Club*

RETTEW brings clients a history of expertise in mechanical and electrical engineering for commercial, industrial, and institutional projects, both in new construction and renovation. The scope of the services we provide encompasses all phases of the building process, from feasibility studies and systems design through construction, installation, testing and commissioning of systems. Clients depend on our ability to affect a balance between reasonable construction costs and lower-than-average operating costs over the life of a building, while meeting or exceeding the owner's goals for the project.

**Mechanical Engineering:**

- Building Heating, Ventilating, and Air Conditioning
- District Heating/Cooling Systems
- Energy Management
- Fire Protection
- Heat Recovery
- Indoor Air Quality
- Industrial Ventilation
- Plumbing
- Process Piping

**Electrical Engineering:**

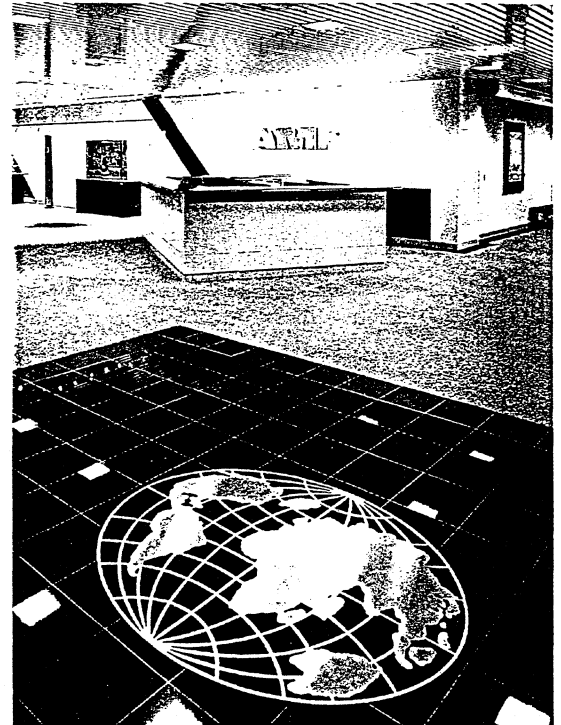
- Power Distribution to 69KV
- Power System Studies
- Emergency Power Systems
- Power Conditioning/U.P.S.
- Instrumentation and Control
- Interior Lighting
- Site and Landscape Lighting
- Grounding Systems
- Lightning Protection

**Technology Services:**

- Telephone/Data Infrastructure
- Electronic Media Centers and Distribution
- Fire Detection, Annunciation, and Monitoring
- Security, Access Control, and Surveillance
- Sound, Paging, and Intercom Systems
- Integrated Systems
- Technology Plans

**Team Functions:**

- Concept and Detailed Engineering, Design and Drafting
- Energy Audits
- Feasibility Studies
- Evaluation of Existing Systems
- Drawings and Specifications for Competitive Bidding
- Drawings and Specifications for Design/Build
- Technical and Cost Analysis
- Construction Phase Services





## Non-Destructive Evaluation

Faced with prolonging the life of our aging infrastructure because of prohibitive replacement costs, assessing existing conditions becomes a critical step. **Non-Destructive-Evaluation** is non-damaging, non-invasive testing techniques; the major advantages reducing or eliminating disturbance and restoration costs, but also quick turn-around time. With continually improving technology, the relative cost of NDE becomes less over time.



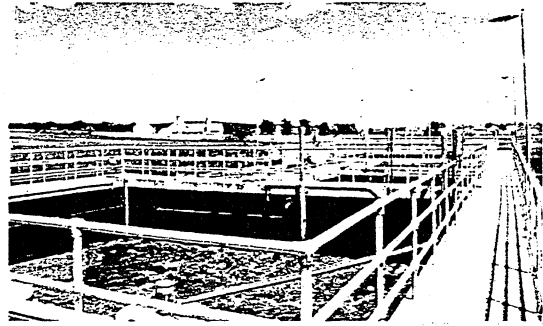
Some of the more common problems frequently solved using NDE:

Usage	Method
Locating reinforcing steel, conduits, or tendons when it is required drilling through existing concrete floors or walls. Aside from the risk of cutting tendons or reinforcing steel, which can be a major problem, drilling and abandoning holes because a bar or conduit was encountered results in wasted time.	Magnetic GPR
Locating the size, cover, and spacing for reinforcing steel for back calculation of strength of an existing slab or wall. This is frequently encountered when incorporating existing concrete walls or slabs into new construction.	Magnetic GPR
Length and integrity testing of concrete when it is necessary to re-use unknown foundations where the depth and size of foundation footings needs to be determined along with the quality of the concrete.	Dispersive Wave
Depth of piling below stream bed for stability of bridges under scoured conditions, where the top of pile is embedded in a pier bent or pile cap.	Dispersive Wave
Location of buried facilities is frequently necessary when trying to locate uncharted utilities or foundations. Unlike techniques that rely on electro-magnetism, GPR can locate non-magnetic utilities such as PVC, fiber optic, or concrete duct banks.	GPR Electro-Magnetic
Thickness of steel or pipes frequently needs to be determined to analyze pipe columns or verifying structural steel thickness.	Ultrasonic
Delaminated concrete, failing pavement joints, near surface sinkholes. These anomalies have different thermal conductivity. Using hand-held or helicopter mounted equipment, these can be identified with a thermal imaging camera.	Thermography
Structural evaluation of wood beams and columns is often necessary when remodeling older structures. Some wood deterioration starts from the inside and works out. Destructive coring can leave unsightly plugs.	Dispersive Wave

RETTEW combines the discipline of engineering with professional environmental consulting to create a compendium of services for the public and private sectors. We work proactively to assist clients with efficient and cost-effective solutions while maintaining regulatory compliance. Our team members participate in regulatory and legislative work groups to keep abreast of our constantly changing regulatory and technological environment.

*"...my view is that the RETTEW staff has been professional and courteous in all respects. Responses to our questions and problems have been handled efficiently and without delay."*

John H. Snyder, Executive Director  
Lancaster Area Sewer Authority



RETTEW's Water and Wastewater Engineering team employs the most current technology, as do all of RETTEW's service areas, including sophisticated computer hardware and software and remedial technologies such as air stripping, soil ventilation, and oxygen release compound (ORC). RETTEW's team has the needed tools and experience to address water and wastewater projects as small as individual on-lot systems and as large as community wide collection, conveyance and treatment systems. Our services include:

- Compliance Consultation
- Computer/Hydraulic Modeling
- Design/Build Services
- Field Testing
- Funding/Financing Applications Assistance/Guidance
- Groundwater Availability Studies
- Groundwater Investigations and Remediation
- Hydrogeologic Studies
- Infiltration/Inflow Analysis
- Inspections and Certifications
- Permit Applications/Renewals/Reporting
- Pretreatment Design/Evaluations
- Public Water Wells
- Rate and Tapping Fee Analyses/Assistance
- Wastewater Collection/Conveyance/Treatment
- Water Distribution & Treatment
- Wellhead Protection Area Delineation
- Wetlands Identification/Delineation/Mitigation

*"RETTEW stood by the Township through three years of sewer plant construction problems. They went the extra mile, continually..."*

Dennis Groff, Township Supervisor  
Paradise Sewer Authority

RETTEW provides stormwater management services in concert with many of the subdivision and land development projects for residential, commercial, and industrial developments. Our clients include architects, land developers, local municipalities, schools, hospitals, and commercial, industrial, and retirement communities.

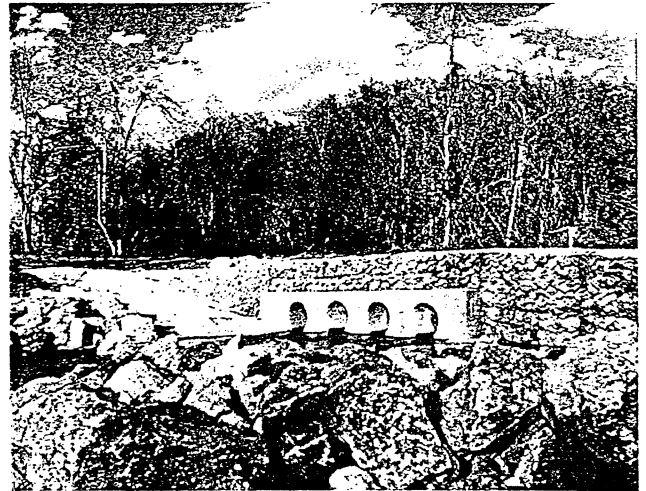
RETTEW uses the latest engineering software programs to develop cost-effective solutions in a timely manner. We have the experience and technical skills needed to exceed in the fields of hydraulics and hydrology.

Stormwater management design experience includes stormwater management facilities, erosion and sedimentation control measures, National Pollution Discharge Elimination System (NPDES) stormwater permit activities, stormwater feasibility studies, floodplain studies, site grading, storm sewer systems, dam branch analysis, and construction cost opinions.

RETTEW offers broad-based experience in the following areas:

- Channel Improvements
- Culvert Design
- Detention/Retention Basin Design
- Erosion and Sedimentation Control Plans
- FEMA Map Revisions
- Floodplain Studies
- Hydraulic Analyses of Bridges
- Hydraulic and Hydrologic Studies for DEP and Army Corps of Engineers Permitting
- NPDES Stormwater Discharge Permits
- Regulatory Agency Coordination
- Solutions to Existing Stormwater Related Problems
- Stormwater Conveyance Facilities
- Stormwater Feasibility Studies
- Stream Crossings
- Underground Detention Facilities
- Watershed Analyses

RETTEW assists clients with the necessary regulatory approvals through agencies such as the U.S. Department of Agriculture, Soil Conservation Service, the U.S. Army Corps of Engineers, the Federal Emergency Management Agency (FEMA), the Pennsylvania Department of Environmental Protection, the Pennsylvania Department of Transportation, and various local municipal agencies. RETTEW has developed close relationships with many of the reviewing engineers.

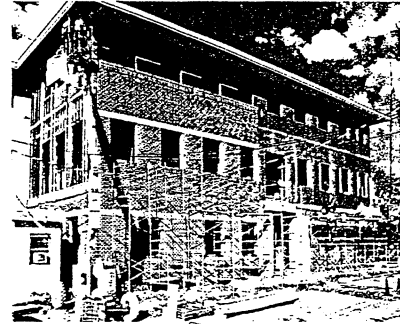


RETTEW provides structural engineering services for all types of building structures, civil works structures, and bridges. RETTEW's structural engineers work closely with clients to provide cost-effective, on-time projects. RETTEW has worked on commercial buildings, office buildings, industrial buildings/structures, municipal structures, educational facilities, church buildings, banking institutions, parking garages, residences, retirement community villages, agricultural buildings, and structural investigations for insurance companies.

RETTEW's structural engineers also have extensive experience in the renovation of structures, assessing structural strength and developing recommendations for the client's proposed use. The staff is well versed in the design of buildings using many types of materials including timber, structural steel, reinforced concrete (precast, post-tensioned and cast-in-place), masonry and aluminum.

Our professional Structural Engineering services include:

- Building Structures Design
- Civil Works Structural Design
- Forensic Investigations
- Geotechnical Engineering
- Highway Bridge Structures Design
- Industrial Structures Design
- Pedestrian Bridge Structures Design
- Pre-Engineered Buildings Foundation Design
- Rehabilitation and Repair Recommendations



***RETTEW Associates, Inc. receives Gold Star Award***

***"Congratulations! You have been selected by the Manheim Township Department of Code Compliance Staff as a recipient of the 1998 Gold Star Design Award. This award is presented annually to design professionals who demonstrate professionalism in their work product, which contributes to making Manheim Township a safe community to live, work and recreate."***

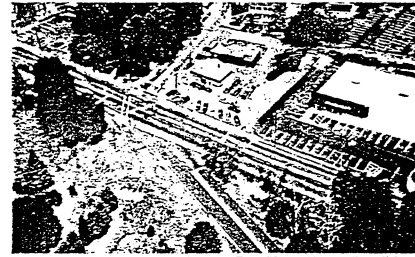
*Donald C. Forry  
Director of Code Compliance*

RETTEW combines traffic engineering study, design and construction supervision experience based on over 50 years of traffic and municipal engineering. Over this time our engineering staff has developed a strong rapport with government agencies, which helps move our clients' projects forward smoothly and cost-effectively. Our frequent dealings with state DOTs, MDSHA, DEP and FHA as well as local governments enable our engineers to develop excellent working relationships with the many different departments involved in reviewing projects. In addition, our knowledge of state and local regulations and procedures means RETTEW can better assist with applications, designs, plans, specifications, and studies.

RETTEW engineers offer a depth of experience in improving the capacity, operations, and safety of highways and intersections.

Our traffic engineering services include:

- Coordinate Traffic Signal Systems
- Expert Testimony
- Funding Applications for Municipalities
- Geometric and Capacity Improvements
- Highway Occupancy Permits
- Impact Analysis/Design
- Intelligent Transportation Systems (ITS)
- Maintenance and Protection (M&P) of Traffic Plans
- Noise Analysis and Barrier Design
- Parking Lot Designs
- Parking Studies and Design
- Pavement Design/Analysis
- Pavement Markings
- PennDOT Driveway Permits
- Public Meeting and Hearing Presentations
- Right-of-Way
- Roadway Reconstruction
- Speed Studies
- Traffic Counts and Data Collection
- Traffic Impact Studies and Analysis
- Traffic Signal Designs
- Traffic/Signage Studies



Before

After



RETTEW's Transportation Engineering Design team combines environmental and engineering study, design and construction consultation experience. Although less tangible, a vital and extremely valuable aspect of working with us derives from the rapport RETTEW has carefully built and nurtured with various regulatory groups and agencies. The coordination of projects with these groups and agencies is essential to their successful, cost-effective completion.

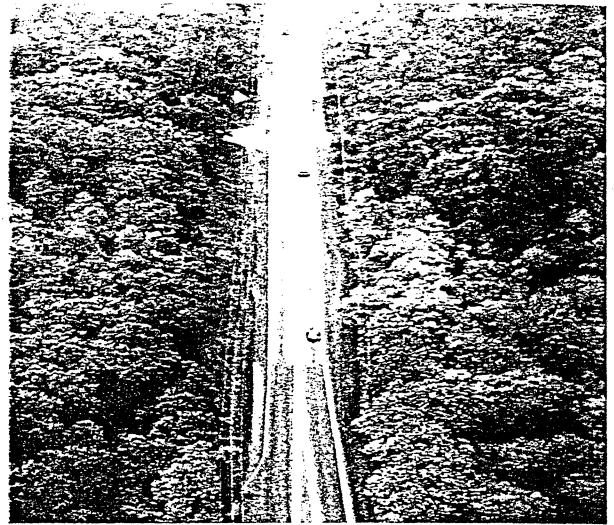
We maintain regular contact with Departments of Transportation (DOT), the Department of Environmental Protection, the Federal Highway Administration, the Environmental Protection Agency, and other permitting agencies. This contact enables our key personnel to develop excellent working relationships with the many different entities involved in administering and reviewing projects. RETTEW's knowledge of DOT standards, regulations and procedures allows us to prepare the necessary permit applications,

designs, plans, specifications, and estimates for transportation assignments. RETTEW strives to establish and maintain positive and cooperative relationships with community groups and special interest advocates.

RETTEW has planned and designed a variety of transportation projects for municipalities, Departments of Transportation, the Turnpike Commission, and private sector clients. Our team has participated in all aspects of roadway engineering, from initial concept through completion of construction and inspection services.

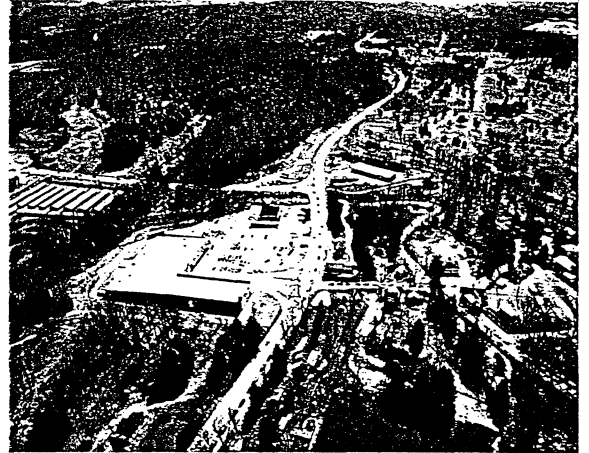
RETTEW's Transportation Engineering Design services include:

- Bridge/Culvert Design
- Driveway Permits
- Environmental Documentation and Clearances
- Erosion and Sedimentation Control
- Field Surveys
- Geometric Improvements
- Highway/Roadway Design
- Highway Occupancy Permits
- Hydraulics and Drainage Design
- Parking Studies and Design
- Pavement Markings
- Public Involvement
- Right-of-Way
- Signage Studies
- Signing
- Speed Studies
- Structural Design
- Traffic Counts and Data Collection
- Traffic Impact Studies and Analysis



Environmental analysis and design have a major influence on the development of transportation projects. RETTEW's environmental professionals include scientists, ecologists, and planners. In addition to the vital role they play in project planning, they also enable us to respond quickly to sensitive issues such as land use, hazardous waste sites, wetlands, permits, Section 4(f) resources and farmland, needs analysis, and public involvement. Effective and early evaluation of such concerns is paramount to maintaining the project's progress.

RETTEW's environmental staff provides services to fill a variety of your environmental analysis and clearance document needs. We are experienced in fulfilling the requirements of NEPA and Pennsylvania Legislative Act 120, on both major and smaller projects. RETTEW provides extensive experience with regulatory agency interaction, directing and supporting public participation efforts and providing expert testimony.



#### Transportation-related Environmental Capabilities:

- Agency Coordination Meeting (ACM) Presentations/Workshops
- Agricultural Lands Condemnation Approval Board (ALCAB) Hearing Presentations
- Air Quality Studies
- Endangered Species Studies/Ecological Assessments
- Environmental Clearance Document Preparation (Categorical Exclusion Evaluations, Environmental Assessments, and Environmental Impact Statements)
- Floodplain Studies
- Geological Investigations
- GIS/GPS Applications for Alternate Development and Assessment
- Habitat Assessments using HEP and PAMHEP
- Hazardous Waste Investigations
- Land Use & Socioeconomic Analysis
- Permit Coordination
- Public Meeting and Hearing Presentations
- Section 4(f) Documentation
- Terrestrial Mitigation Design
- Training
- Underground Storage Tank Investigations/Remediation
- Visual Impact Analysis
- Water Quality Analysis
- Wetland Construction/Post Construction Monitoring
- Wetland Identification/Delineation; WET 2.1
- Wetland Mitigation/Design/Construction



Urban Planning • Resort Design • Planning & Community Development • Landscape Architecture • Interior Design • Construction Management • Construction







SE GROUP is a multi-disciplinary consulting firm that provides **creative and practical solutions** for landowners throughout the world. Since 1958 our partners have entrusted to us **over 2,000 projects worldwide**, allowing us to fulfill specific client needs and develop trusting relationships to create unique and successful projects for the benefit of people. In short, our achievements are measured through our partners' successes. We do this by providing integrated services built around the following:

**PLANNING, DESIGN, & LANDSCAPE ARCHITECTURE:**

preliminary site studies, detailed construction documents and on-site construction supervision from our team of nationally recognized designers.

**ENVIRONMENTAL PLANNING:**

strategic regulatory guidance, document preparation, permitting, mitigation design and construction monitoring.

**MARKET / ECONOMIC ANALYSES & APPRAISALS:**

real estate research, development strategies, and economic projections.

**GEOGRAPHIC SYSTEMS:**

data management and map production for integration of planning, environmental, economic and market analyses.

The mission of SE GROUP is simple: **Balance nature with people through the integration of art and science.**

Visit us at [www.segrp.com](http://www.segrp.com)

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Frisco, CO  
970.668.3398

Park City, UT  
435.649.9395

Bellevue, WA  
425.653.5690





**List of Services**

**ENVIRONMENTAL PROCESS MANAGEMENT**

Environmental Analysis / Consulting  
Permitting / Regulatory Support  
Environmental Planning  
Environmental / Construction Monitoring

**GEOGRAPHIC SYSTEMS**

Analysis  
Cartography  
3-D Modeling  
Software & Web Technologies

**PLANNING & DESIGN**

Large Scale Planning  
Detail Design  
Construction Administration  
Permitting Services

**MOUNTAIN PLANNING**

Mountain Planning  
Base Area Planning  
Construction Management

**MANAGEMENT, ECONOMICS & APPRAISAL**

Market Research  
Appraisal  
Financial Analysis  
Resort Real Estate  
Related Services

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## Planning & Design

Sensitive planning and detailed design are essential components for any project with the goal of being built. The landscape architects and planners at the SE GROUP have distinguished themselves in national forums as part of a small group of up and coming firms that are providing exceptional design services. Our team of skilled professionals works closely with our clients to develop projects that are financially successful, aesthetically compelling, and obtain broad support from a wide range of stakeholders. We achieve these results by listening carefully, understanding the site, developing design solutions that clearly articulate the clients goals, and detailing the built elements so they create memorable environments that people are repeatedly drawn to.

Landscape Architecture Magazine has described the firm's work as having "a quality that actually enhanced the natural environment. The man-made and natural worked together to make them both look better." The firm was recently described as one of "the most creative and successful landscape architects practicing today" by James Trulove in his book *The New American Garden*.

### LARGE SCALE PLANNING

*Resort Planning*  
*Institutional Planning*  
*Real Estate Planning*

### DETAIL DESIGN

*Resort Design*  
*Institutional & Campus Planning*  
*Real Estate Development*  
*Residential Design*

### PERMITTING SERVICES





## Environmental Process Management

The environmental approval process is an essential component of any development proposal. Project proponents are required to meet the requirements of federal, state and local agencies, often investing considerable time and effort in the environmental process during the preliminary stages of development. SE Environmental has a proven track record in successfully guiding projects through the complex environmental process across North America.

Our success is based directly upon the success of our clients. The basis for achieving project approvals in a cost effective and timely manner is rooted in three core values: our knowledge and understanding of **Environmental** requirements, a thorough knowledge of the permitting **Process**; and our ability to provide effective project **Management**. The SE Environmental team combines these values into our professional services.

ENVIRONMENTAL ANALYSIS / CONSULTING

PERMITTING / REGULATORY SUPPORT

LONG-TERM MONITORING / COMPLIANCE

ENVIRONMENTAL PLANNING

RESTORATION ECOLOGY SERVICES

ENVIRONMENTAL / CONSTRUCTION  
MONITORING





## Market, Economics, & Appraisals

The economists, appraisers, financial analysts and real estate experts in the Market, Economics & Appraisal practice have capabilities ranging from survey research, to complex appraisals, to master strategies for real estate development. We are ready to assist in any phase of development.

### MARKET RESEARCH

*Real Estate Markets  
Project-Based Market Analysis*

### APPRAISAL

### FINANCIAL ANALYSIS

*Real Estate Pro Forma  
Feasibility / Return on Investment*

### RELATED SERVICES

*Management Consulting  
Due Diligence Review  
Socioeconomic Analysis*



S.E. Group



## Geographic Systems

One of the best tools to manage your geographic information is the computerized GIS or Geographic Information System. This system can be used to store and analyze all of your map data.

GIS breaks down your maps into a series of layers so you can easily combine different elements to gain knowledge from the same data. Unlike CAD systems, GIS is a complete database, allowing all these layers to connect together and with all of your existing data.

SE GROUP uses its GIS tools to help make sure our environmental and planning efforts fully understand the site and the complex land issues that may surround it.

### ANALYSIS

*Site Analysis*  
*Environmental Modeling*  
*Terrain Analysis*

### CARTOGRAPHY

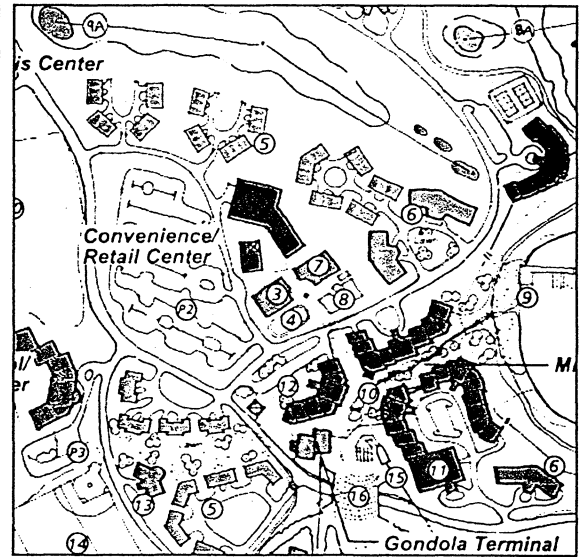
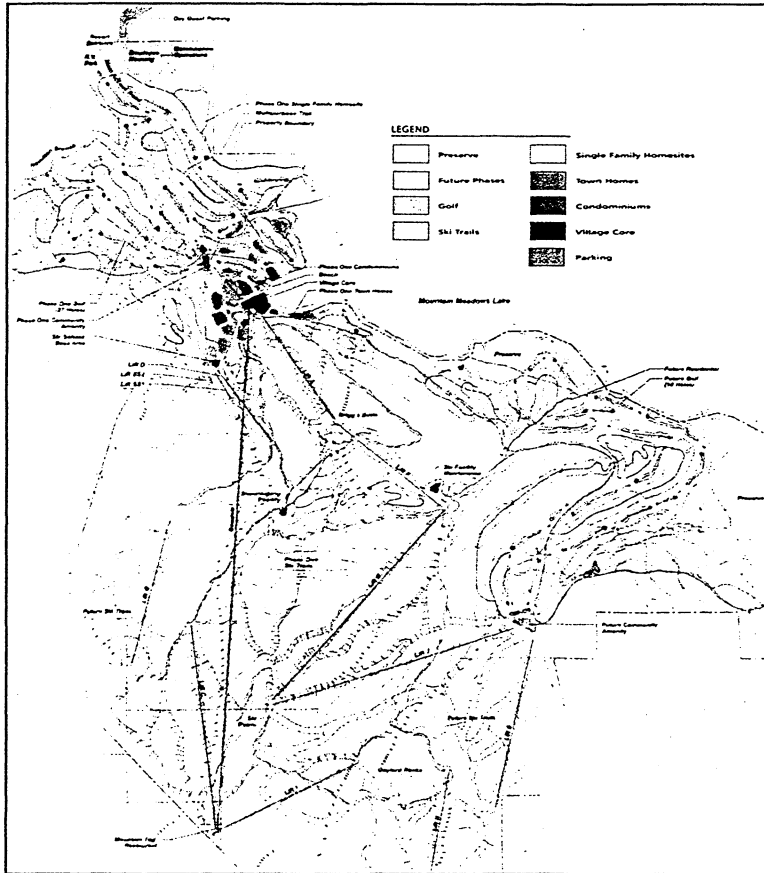
*Base Mapping*  
*Geographic Positioning Systems (GPS)*

### VISUALIZATION

*Visibility Assessments*  
*Massing Models*  
*Photo Simulations*

### SOFTWARE & WEB TECHNOLOGIES





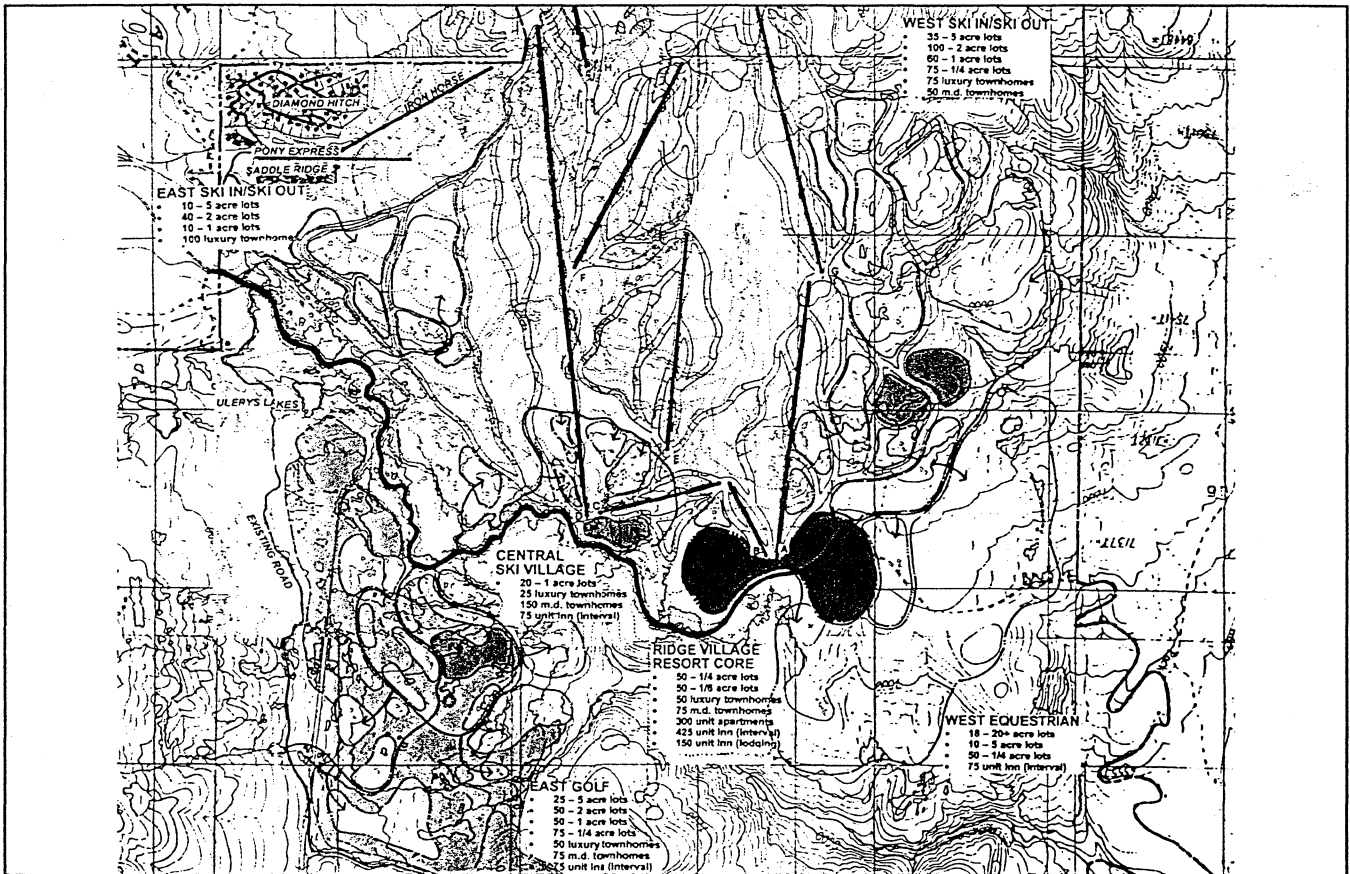
**Dyer Mountain**  
*Westwood, California*

The proposed community at Dyer Mountain would provide residential, recreational and commercial facilities, as well as infrastructure facilities to serve local day users, overnight visitors and permanent residents on a year-round basis. A village, including overnight lodging, restaurants, retail shopping and offices would act as the community center. Other residential neighborhoods, integrated with golf, skiing and various recreation amenities, would be developed on portions of the site. Types of housing would likely include low-density single-family dwellings, clustered multi-family units, condominiums, small inns and hotel properties. A recreational vehicle park and employee housing would also be incorporated into the community.

Recreational elements of the proposed community would include alpine and nordic skiing, golf, tennis, hiking and biking trails, horseback riding, fishing and many other year-round outdoor activities. Commercial facilities would include convention meeting space, restaurants, retail shops, grocery stores, offices and interpretative/cultural centers.

The plan for this proposed four-season recreational community emphasizes the environmental setting, with neighborhoods and recreation amenities built around themes such as the lake, mountain, meadows, creeks and forest.



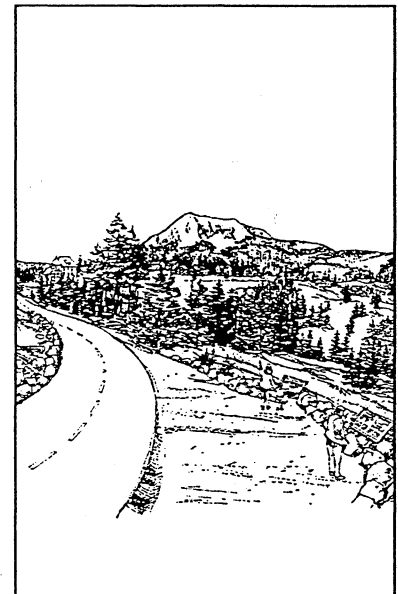


**Moonlight Basin Ranch**  
*Big Sky, Montana*

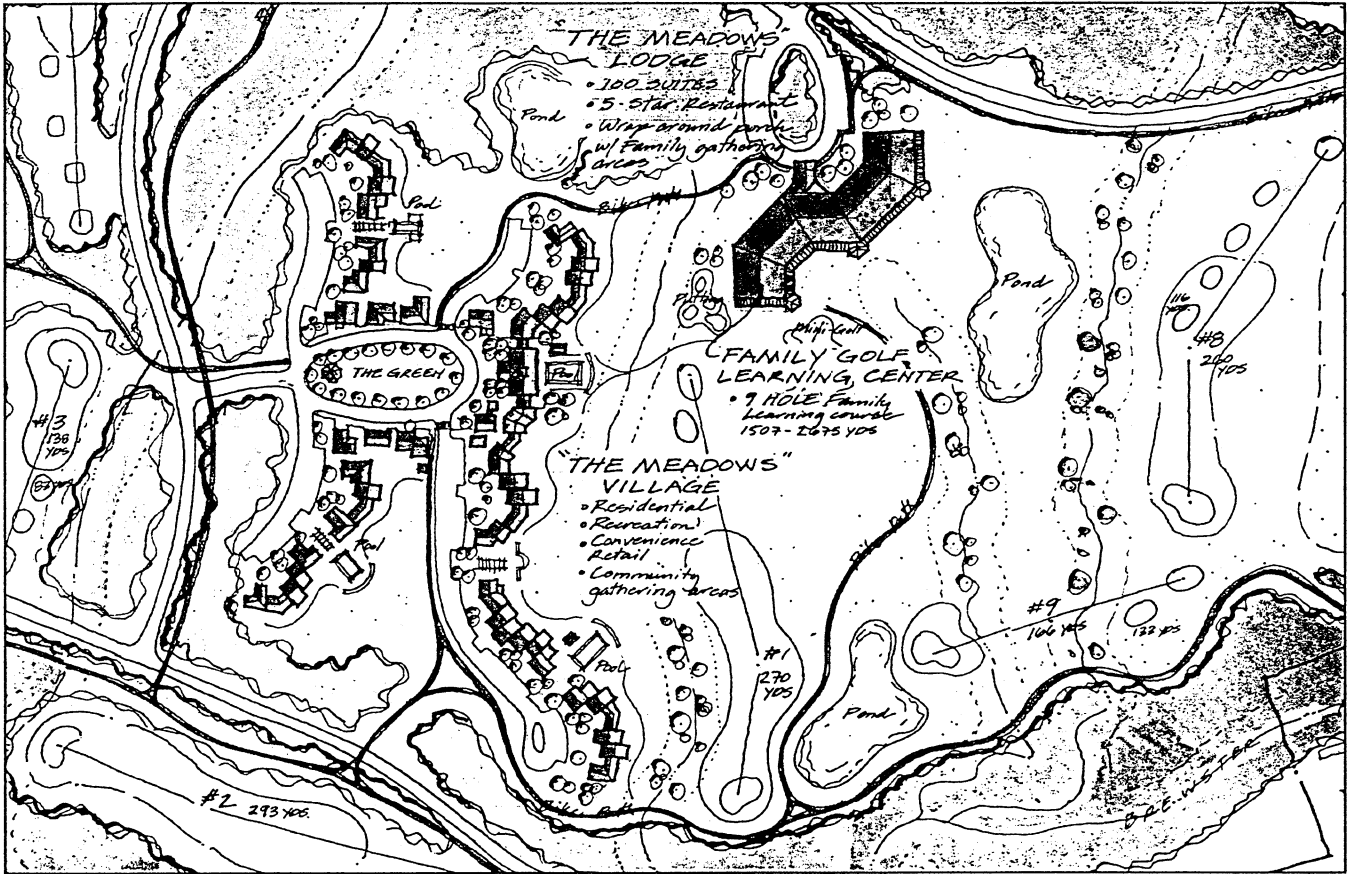
The Moonlight Basin Ranch planning project combined three inter-related processes:

- *Market Research* – to establish a list of resort components including a real estate and lodging product mix and absorption rates, commercial space requirements, resort amenities, and recreational facilities.
- *Site Analysis and Planning* – to identify existing site features, establish the development capacity of the site, and determine the most suitable location for the various resort components.
- *Financial Analysis* – to test the financial feasibility of the project and determine the timing for the phased construction of the resort.

The 25,000 acre site of Moonlight Basin Ranch is a beautiful valley surrounded by mountains and divided by the Jack Creek drainage. There are several unique development areas on either side of the drainage including open ridges and low lying meadows. Understanding the character of each area of the site was an integral part of the land use planning process, insuring that the site's natural features would be preserved.







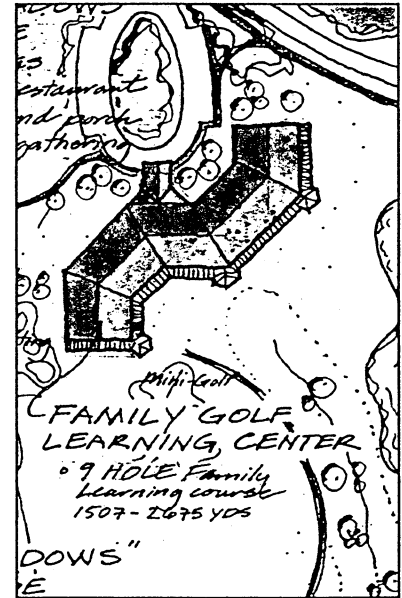
**Smugglers' Notch Resort Master Plan  
Cambridge, Vermont**

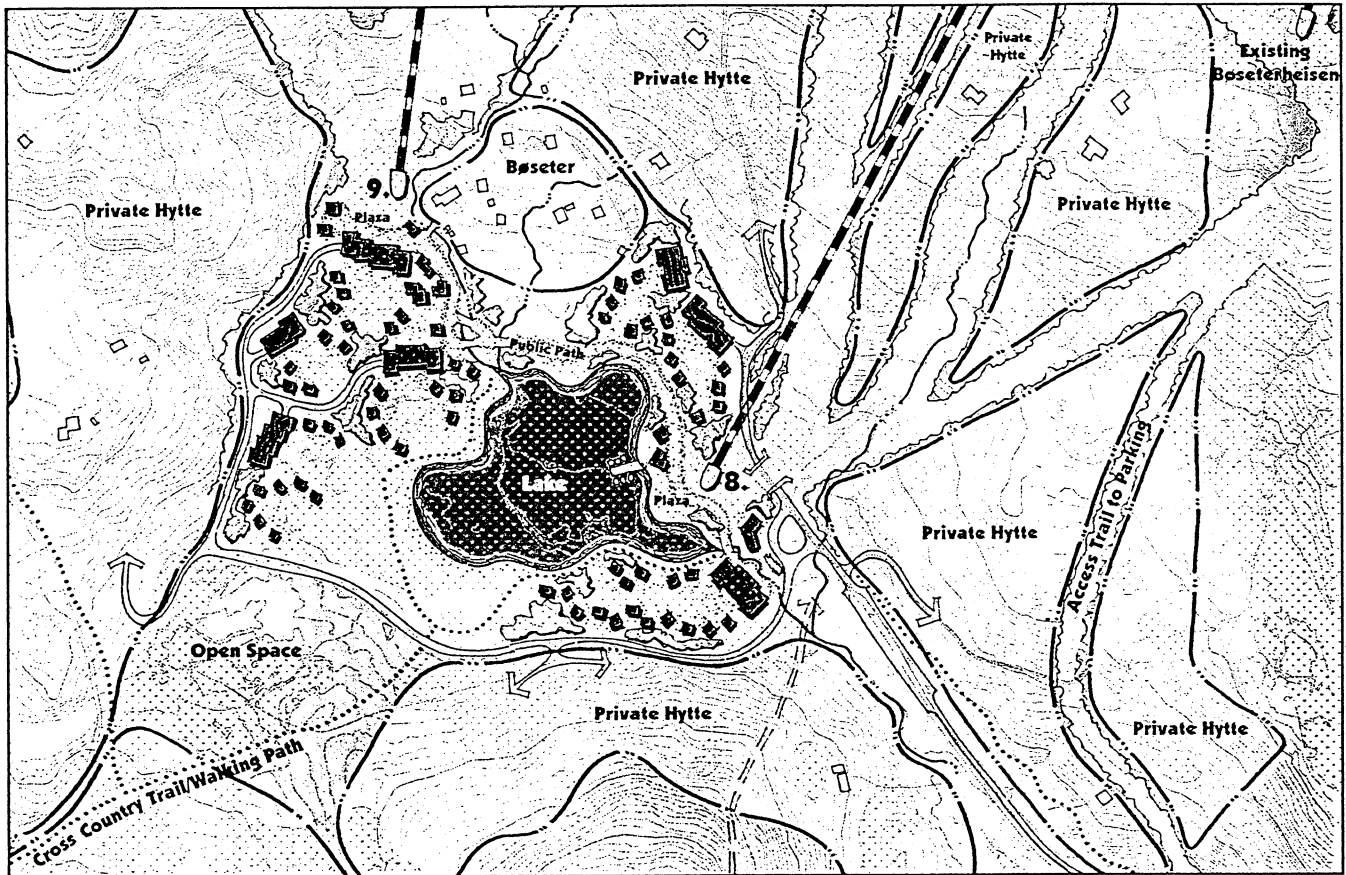
SE GROUP was retained by the Smugglers' Notch Resort to develop a resort master plan for its 4,000 acres of land in Cambridge, Vermont.

The master plan proposed a central meadow with a surrounding loop road, providing a focal point for recreational and residential development. Using the programming elements developed by the resort, the plan created a series of 'learning centers' to provide recreational and educational opportunities to the families that visit the resort. A 9-hole family golf course and associated golf school are proposed for the golf learning center.

Additional recreational amenities proposed in the master plan included an outdoor

education center, an agricultural learning center, a field sports activity center, a pedestrian and bikepath system, an expanded water park and an interactive play area for young adults. The plan provided a vehicular and pedestrian traffic network linking all recreational and residential development to the main village and ski area amenities.





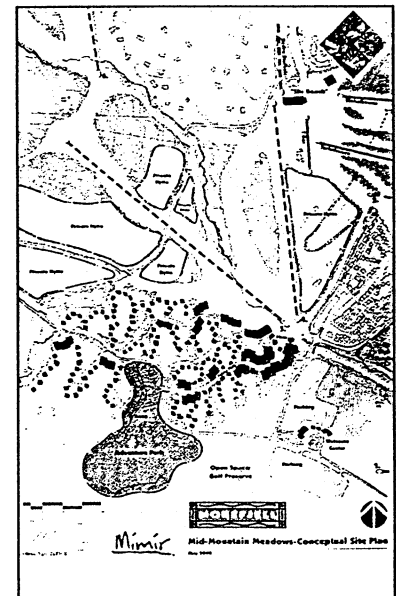
Norefjell  
Noresund, Norway

SE GROUP, in association with MIMIR AS, (Larvik, Norway) was selected to provide master planning services for the Norefjell area, Krødsherad kommune, Norway. The purpose of the plan was to provide a strategy for the future development of the area, including:

- The re-development of existing projects;
- Improvement to the performance of the existing ski center;
- Recommendations for future expansion of the ski center, and
- A framework for new development that is consistent with the goal of improving the regional tourism economy.

Throughout the planning process particular

focus was placed on creating a successful, workable development strategy for the study area, the *kommune*, and the region. The process allowed for continual review by the stakeholders during the creation of the plan, resulting in strategic decisions being made by the group for the benefit of the entire area. The result of the planning efforts illustrated a multi-faceted, year-round resort with the ability to satisfy a variety of guest preferences, and one which can compete in the national and international marketplace.

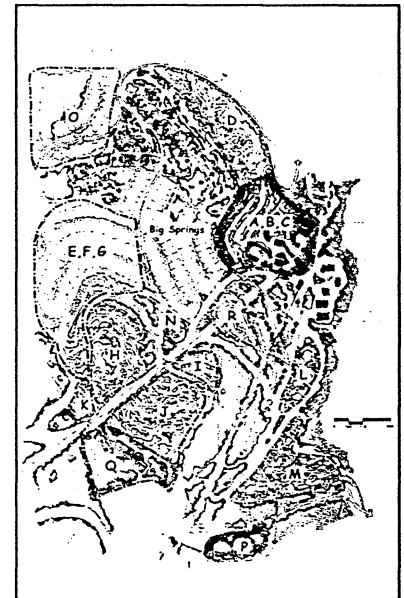




**Northstar-at-Tahoe**  
*Truckee, California*

There is a limited amount of undeveloped land remaining within the Northstar resort property. SE GROUP was retained to investigate the potential for real estate development of this land.

The first step in evaluating the development potential was to identify all areas of land with slope gradients suitable for real estate development. The development densities and type of units for the resulting parcels were determined based on the relationship to existing development, proximity to the resort village facilities, ease of vehicular access, solar exposure, views and unique site features. The final plans provided Northstar with a strategic approach for future real estate development.





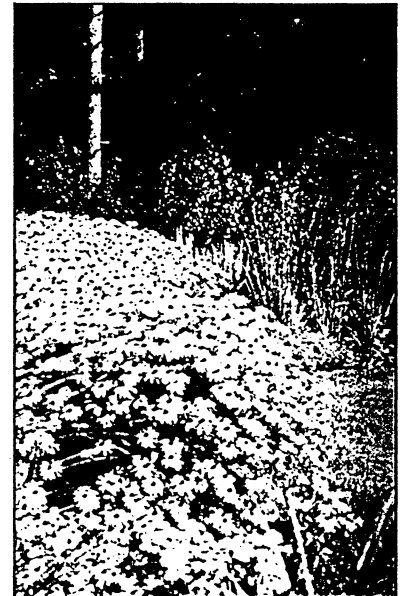
**Burlington Country Club**  
*Burlington, Vermont*

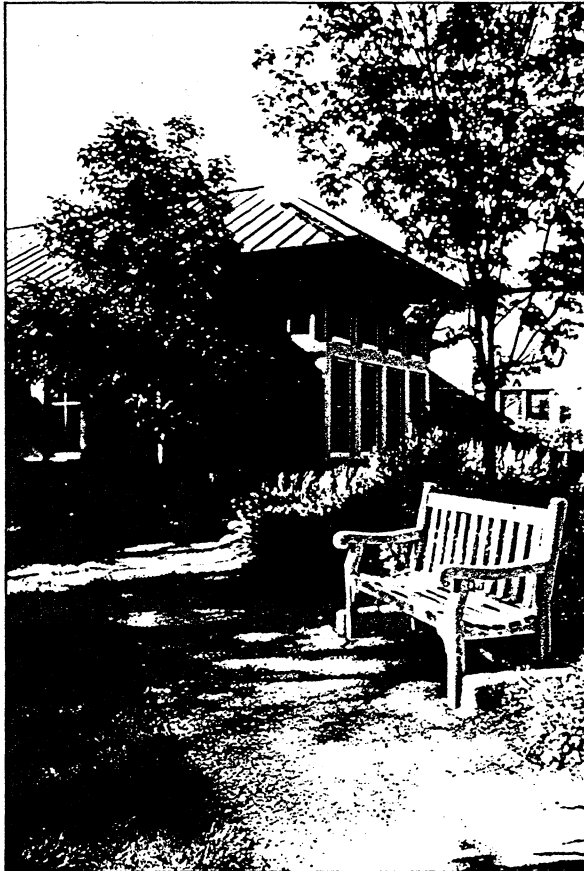
The SE GROUP has worked closely with the Burlington Country Club staff, Board of Directors, and Dr. Michael Hurdzan, Golf Course Architect, in developing landscape plans for the clubs facilities. Beginning with the clubhouse renovations the design has focused on creating low maintenance plantings and landscapes that are attractive and enhance the members enjoyment of the club.

The golfing experience begins well before the teeing up on the first hole. A golf facility can control a large part of the initial experience by creating an elegant, relaxed environment from the point of entry onto the property to the clubhouse. In response to this philosophy, plans have been completed for a new entrance off South Prospect Street that includes stone walls, a

new sign, plantings, and lighting. A split rail fence has recently been installed along the entry drive, complementing the existing maple trees and creating a very simple, yet attractive entry sequence.

The most successful project to date has been the plantings around a new putting green between the pro shop and the first tee. Working with Dr. Michael Hurdzan, a mix of hardy perennials and ornamental grasses were installed in broad, sweeping masses that relate to the soft undulations of the putting green. The changing seasonal display provides a beautiful definition to the green and an attractive focal point for the arriving members and guests.





**Priscilla Welsh Perennial Garden**  
*Wake Robin, Shelburne, Vermont*

This garden was designed to celebrate the spirit and passion that Priscilla Welsh had for perennial gardening. Completed in July of 1999 the garden includes a mix of shade and ornamental trees, dwarf conifers placed to provide winter interest, and a wide variety of perennials that Priscilla used in her own gardens. Due to the existing heavy, compacted soil conditions, the top 18" of earth was removed, drainage and irrigation installed, and a mix of topsoil and compost was brought in. A compacted gravel walk with a variety of resting and viewing locations was designed to accommodate all visitors.

Raised mounds and a low stone wall define a series of different garden experiences in a relatively small space. Shade trees are

placed to strengthen the division of space and provide shade for visitors and the plants. Perennials are organized based upon height, texture and flowering schedule.

