



**E2 Project Management LLC**

## **STATEMENT OF QUALIFICATIONS**



- Architectural/Engineering
- Telecommunication Services
- Environmental Services
- Natural Resources
- Cultural Resources
- Construction Support Services



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Small Business Enterprise (SBE)

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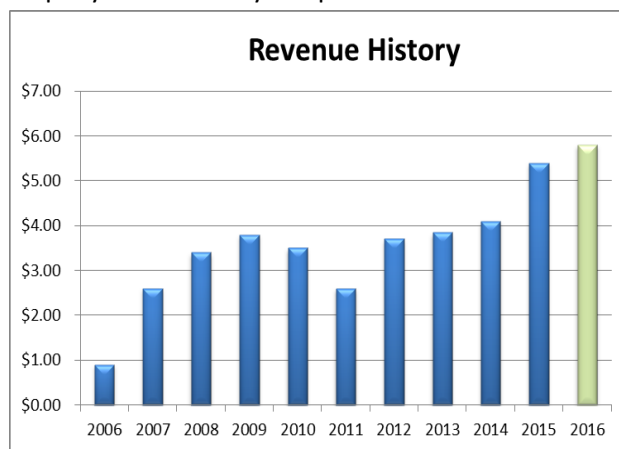
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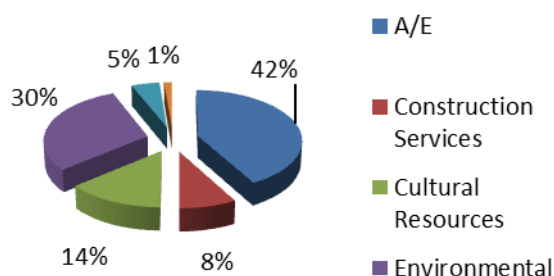
## 1. INTRODUCTION TO E2 PROJECT MANAGEMENT LLC

**E2 Project Management, LLC (E2PM)** provides professional services to protect and improve the quality of life through responsible engineering, project management, sustainable environmental management, brownfield redevelopment and infrastructure design. Our Company continuously adapts its services to provide for our Client's changing needs and to meet all of our Customer expectations. The business sectors in which we provide capabilities to our Customers are essential to sustaining the quality of life and we continuously strive to expand our horizons in order to offer state-of the-art services.

E2PM is classified as a small business enterprise (SBE) in the state of New Jersey. E2PM's 2016 revenues were **\$5.8 Million**, of which approximately 40% were generated from Architectural/Engineering projects, 30% were generated from Environmental projects, and the remaining balance of 30% were generated by our Construction Support services and Natural and Cultural Resources projects. As shown in the Revenue History chart above, we have sustained a steady and sustained growth pattern over the past 5 years.



E2PM has been a Client-oriented company with a focus on business integrity, quality, and timely and efficient work, with an emphasis on practical solutions to engineering, environmental, and construction problems. E2PM combines the professional and technical skills of its employees to achieve a high level of Client satisfaction. We are proud of the fact that a large percentage of our business is derived from referrals of our satisfied Clients.



E2PM offers experience, responsiveness and dedication as we strive for excellence in our field. E2PM's diverse experience allows us to be highly responsive to the needs of our Clients in both the public and private sectors. Our technical background includes experience in performing initial condition survey and site investigations including environmental and natural resources evaluation, through construction document preparation, to on-site construction management and hands-on technical support services.

The Company employs a staff of over 30 engineering, environmental and construction specialists whose credentials include licensed professional engineers, NJDEP licensed site remediation professionals (LSRPs), registered architects, professional planners, and LEED certified professionals, as well as, NJDEP licensed UST closure professionals. E2PM offers unsurpassed experience, responsiveness, and dedication to our Clients. Our principal engineers have provided essential engineering, environmental remediation, and effective construction management services for educational, industrial, residential and commercial Clients across the Tri-State area. This experience allows E2PM to be highly responsive to the varying needs of Clients in both the public and private sectors.



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E2PM's success can be credited to our cadre of highly-experienced engineers and environmental scientists, with senior staff members each averaging over 25 years of experience. E2PM's professional staff licensing and registrations extend over the following five states: New Jersey, Pennsylvania, Delaware, Massachusetts and New York. We have successfully-executed Response Action Outcomes (RAOs) on over 25 environmental remediation sites.

### 1.1 CORPORATE CULTURE & PHILOSOPHY

E2PM's senior executives and engineers have gained valuable experience in providing quality workmanship by their previous employment with distinguished firms, noted for their sophisticated and high-quality programs. E2PM's core company values are based on the principle of providing effective Client services and quality management in every aspect of our operations, allowing us to operate successfully for the past 12 years. E2PM prides itself on a flat management structure to promote individual accountability, responsibility, responsiveness and creativity. E2PM was founded on a corporate philosophy that emphasizes:

- A highly-competitive cost structure, allowing us to assign the very best talent to our Project Teams.
- A commitment to long-term Client service and satisfaction and a dedication to frequent Client communication.
- A multi-disciplinary approach to solving all of our Clients' problems.
- High-quality technical and programmatic services at a competitive cost.

### 1.2 ADVANTAGES WE BRING TO OUR CLIENTS

- **In-House Capabilities.** Our cadre of full-service engineering, environmental engineers and scientists, and related disciplines can examine Client issues and solve problems locally and are available for quick-response and fast-turnaround support.
- **Resources.** With our vast network of Team partners and specialized subcontractors, our Clients have immediate access to a wide range of multi-disciplinary specialists and technical experts, both nationally and locally.
- **Stability.** E2PM's financial strength ensures our Clients that we can support them over the long haul, regardless of market fluctuations or economic hard times. Over 65% of E2PM staff averages over 5 years of experience with E2PM.
- **Specialized Expertise.** E2PM maintains state-of-the-art expertise in the key environmental, economic, management, and engineering issues facing all of our Clients today. We have learned from our past experience and offer that expertise to our Clients, resulting in greater efficiency and cost-effectiveness.
- **Business Values.** E2PM's goal is to help our Clients achieve success. E2PM management and technical consulting services help our Clients achieve their business goals and improve their bottom line results.
- **Customer Service.** We exist as a Company to serve the needs and aspirations of our Customers, and our approach to all of our work reflects this basic reality.

### 1.3 OUR CLIENT BASE

E2PM has provided its broad range of expertise to hundreds of private and public sector Clients in the United States. We have been able to provide effective architectural/engineering and

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environmental consulting services to assist our private industrial Clients in managing their business expansions and operations, while maintaining their compliance with regulatory agencies and continuing their operations. A few of the numerous industries our principals have worked for include: developers, petroleum, pharmaceutical, telecommunication, petrochemical, manufacturing, power & gas utilities, State, Federal and the Department of Defense. E2PM is providing full service engineering, environmental, energy, and construction support services for both large and small projects throughout the Northeast, primarily in New Jersey, Pennsylvania and New York.

*The following is a list of key Clients that we have successfully worked with in the past or are currently working with:*

- PSE&G
- Hertz Corporation
- AT&T
- North Hudson Yacht Club
- Skanska USA Building Corp.
- ABB
- New York Terminals
- Brooklyn Bridge Park Corp.
- Batelle Memorial Institute
- NJ School Development Administration (NJSDA)
- PA Department of Cultural and Natural Resources (DCNR)
- JC Improvement Authority
- CH2M Hill
- Cross River Fibers
- PPL
- Verizon Wireless
- Sprint
- Jamestown Properties
- Gardiner & Theobald
- Noveon
- Hoboken Brownstone LLC
- Picatinny Arsenal
- NJ Transit
- PA Department of General Services (DGS)
- Siemens Energy
- Hudson County Improvement Authority (HCIA)
- NJ Military Affairs and Guard Bureau
- Morris County Park Commission

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## E2PM's RANGE OF SERVICES



The following table, E2PM Service Areas, further delineates the services provided within each one of the sectors as noted above.

## E2PM Service Areas

### Architectural/Engineering Services

- Feasibility Studies
- Property Condition Assessments (PCA)
- Structural Condition Surveys
- Pre-Demolition Surveys
- Concrete, Timber & Steel Design
- Construction Documents
- Structural Design
- Geotechnical Assessments
- Foundation & Geotechnical Design
- Marine Engineering, Bulkheads, Piers & Docks
- Retaining Wall Design
- Pavement Design
- Monitoring of Structures

### Construction Support Services

- Construction Surveys & Layouts
- Cost Estimating
- Value Engineering
- Earthwork Oversight
- Foundation Inspections
- Pavement Inspections
- Structural Monitoring (Air, Dust, Noise)
- Site Monitoring (Air, Dust, Noise)
- Support of Excavation (SOE) Designs
- Sequence of Operations (SOO) for Demolition Planning & Oversight

### Environmental Services

- Brownfield Redevelopment
- LSRP & Site Remediation
- Property Due Diligence
- Remedial Investigations & Feasibility Studies
- Soil & Groundwater Remediation
- Groundwater Quality Evaluations
- NJPDES Permits & TWA Applications
- Air Permits & Emissions Control
- ISRA Compliance
- Underground Storage Tanks

### Land Development Services

- Civil & Site Engineering
- Stormwater Management (SWPP)
- Soil Erosion & Sediment Control
- Foundation Design for Towers & Shelters
- Structural Analyses for Buildings, Towers & Water Tank Retrofits
- Stealth Antenna, Tower & Shelter Designs
- Mechanical & Electrical Design
- Lightning Protection Systems
- Construction Drawing Preparation
- Construction Permitting
- Shoring & Underpinning
- Braced Excavation Designs

### Cultural & Natural Resources

- Wetland Delineations & Permitting
- Ecosystem Restoration Studies
- Baseline Ecological Assessments
- Waterfront Development Permits
- USACE Permits
- Stream Encroachment Permits
- Invasive Plant Species Surveys
- Watershed Management
- Environmental Baseline Studies
- Baseline Ecological Evaluations (NJDEP)
- CAFRA Permits
- NEPA & EIS Services
- Threatened & Endangered (T&E) Species Habitat Evaluations

### Construction Management Services

### Industrial Hygiene

- Asbestos & Lead Surveys
- Asbestos & Lead Testing
- Mold Surveys
- Indoor & Ambient Air Quality
- Waste Materials Management Plans

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## 2. ARCHITECTURAL & ENGINEERING SERVICES

E2 Project Management (E2PM) is a multi-discipline engineering firm practicing in the Northeast states including New York, New Jersey, Pennsylvania and Delaware. We offer a wide range of services to our Clients in both the public and private sectors. The company employs a staff of over 30 engineering, architecture, construction and environmental professionals whose credentials include licensed professional engineers, registered licensed architects and LEED certified professionals.

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Our principal engineers have provided essential engineering and construction management services for infrastructure and redevelopment projects, colleges and universities, K-12 schools, the pharmaceutical and petrochemical industries, and commercial office buildings across the region.

Our diverse experience allows us to be highly responsive to the needs of all of our Clients. E2PM's technical experience includes every aspect that may be encountered in a contract - from condition surveys and site investigations, through report preparation, preliminary and final design of improvements, contract document preparation, and construction, demolition and inspection support services.



E2PM provides its Clients with the high-quality design services that they need and expect. E2PM primarily provides the following professional architectural/engineering (A/E) services:

- ❖ A/E and Civil Design for New Construction & Renovations
- ❖ Geotechnical Investigations, Soils Engineering & Foundation Design
- ❖ Engineering Building Design
- ❖ Structural/ Engineering Evaluations
- ❖ Structural Design & Evaluation of Vehicular and Pedestrian Bridges
- ❖ Structural Evaluation & Demolition Design for Buildings
- ❖ Telecommunication & Power Transmission and Distribution Services
- ❖ Parking Lot Design
- ❖ Landscape Architectural Services
- ❖ Construction Inspection & Management Services
- ❖ Land-use Planning & Permitting
- ❖ Property Condition Assessments (PCA)
- ❖ Roadway Design, Drainage, Grading, & Utilities Engineering
- ❖ Design Underground & Aboveground Utilities and Utility Relocation
- ❖ Topographic Surveying, Base Mapping & Utility Location / Verification

### 2.1 CIVIL & STRUCTURAL ENGINEERING

Our structural engineering team is comprised of engineering and technical professionals with extensive experience in civil, materials, structural and construction engineering. E2PM engineers possess experience in all aspects of the construction industry - from analyses of foundations, roofs, floors and walls to concrete, brick masonry, cement, exterior facades and interior structural systems.



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E2PM analytical capabilities include:

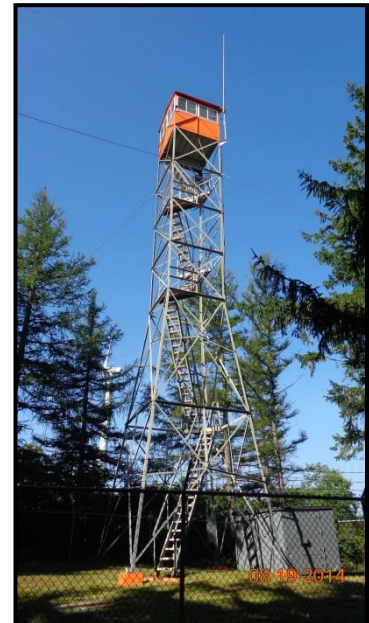
- ❖ Architectural System Evaluations
- ❖ Bridge & Roadway Evaluations
- ❖ Building Code Compliance Evaluations
- ❖ Component Performance Evaluations
- ❖ Engineering Analysis & Technical Quality Reviews
- ❖ Facade, Roof, Window & Foundation Evaluations
- ❖ Finite Element Stress Analysis
- ❖ Load Testing & Assessments
- ❖ Buildings - Facilities Design & Analysis
- ❖ Foundation Design & Analysis
- ❖ Retaining Wall Design & Analysis
- ❖ Load Ratings & Structural Analysis
- ❖ Demolition Design - Buildings & Other Structures
- ❖ Temporary Structures Design
- ❖ Special Structures Design
- ❖ Value Engineering Support

## Representative Projects:

**Rehabilitation of 53 Fire Lookout Towers throughout the Commonwealth Of Pennsylvania:** The Department of General Services (DGS) selected E2PM to provide engineering services for the preparation of plans, specifications and cost estimates to restore or demolish fire lookout towers located in various state forest districts across the State. The fire tower restoration and site improvement projects were constructed by DGS but maintained by the Department of Conservation and Natural Resources (DCNR) local state forest districts.

E2PM successfully provided the following services:

- The preparation of all the required environmental and local permits, including wetlands, soil erosion and also local zoning permits.
- The preparation of construction cost estimates.
- The preparation of the project design specifications.
- Obtaining building construction approvals from the Pennsylvania Labor and Industry departments.
- Supporting the construction phase with inspection services and shop drawing reviews.



**Somerset County Adult Day Care Facility (Bridgewater, NJ):** E2PM was contracted by SSP Architectural Group on behalf of Somerset County to provide structural design and construction support services for this 12,000sf, single story facility.

E2PM performed the design of the long span timber roof using manufactured lumber and exposed glulam beams in various areas. Special steel structures were incorporated to support various elements of the facility including movable partitions and mechanical equipment. The facility serves as a senior citizen daytime activity center and includes various recreational areas, a great room, a full cooking kitchen, medical support and administrative areas.



**Towaco Crossings Mixed Use Facility (Towaco, NJ):** Towaco Crossings is a new multi-use facility that includes a restaurant/steakhouse/bar and lounge combined with retail space and residential apartments. The facility's façade is designed to mimic an old style train station, hence the name "Rails" for the new eatery. Total square footage is approximately 44,000sf comprising two-stories and a basement and was completed in early 2015.



E2PM was contracted to perform structural engineering services that consisted of conventional wall and spread footings, steel and concrete composite elevated floor slabs and timber framing. Long span trusses facilitate outdoor patio areas for the residential and restaurant areas. Special elements include a Porte-cochere, up to six retail stores, six residential apartments, outdoor walkways, outdoor patio and eating areas and a grand staircase.

## 2.2 GEOTECHNICAL & FOUNDATION ENGINEERING

E2PM has in-depth expertise in providing economical foundation design for our Clients. Whether the solution is piling, dynamic compaction, or other means of ground modification - E2PM can assess and recommend the most appropriate method. In addition, E2PM explores all feasible alternatives for the geotechnical design, such as the reuse of existing piles, in order to provide the most cost-effective solutions and determine if they will meet the long-term needs of the project. Geotechnical services offered by E2PM include:

- ❖ Foundation Design
- ❖ Subsurface Investigations
- ❖ Soil Strength Parameter
- ❖ Underpinning Design
- ❖ Retaining Walls
- ❖ Seismic Analysis
- ❖ Braced Excavations
- ❖ Ground Improvement
- ❖ AutoCAD Drawings



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## 2.3 MARINE & WATERFRONT ENGINEERING

E2PM has recent successful experience with Marine and Waterfront Engineering projects. E2PM provides design, engineering, and monitoring for marine and waterfront infrastructure projects. Waterfront/shoreline development projects are particularly well-suited for E2PM as we can cover many of the required work elements and aspects of such a project, as we are a multi-discipline consulting firm.



E2PM has been instrumental in supporting the redevelopment of the 1.3 mile waterfront shoreline, from the Manhattan Bridge, through the Brooklyn Bridge and extending to Atlantic Avenue. The work included converting former warehouses and piers to an award-winning waterfront park. In addition, our full-service engineering and environmental services were instrumental in the redevelopment of John Street Park, Fulton Ferry Park, Squibb Park, and the waterfront redevelopment of Piers #1, #2, #3, #5, and #6. E2PM was also involved in the development of Governor's Island Park. Our marine and waterfront engineering services include:

- ❖ Bulkhead & Relieving Platforms Evaluations
- ❖ Bulkhead Rehabilitation
- ❖ Shoreline Protection & Flood Hardening
- ❖ Sequence of Operation (SOO) Drawings for Demolition
- ❖ Support of Excavation (SOE) Design
- ❖ Pier Design
- ❖ Fendering & Berthing Energy Absorption
- ❖ Permitting
- ❖ Demolition

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## Representative Projects:

**The Brooklyn Bridge Park Development Corporation (BBPDC) (Brooklyn, NY):** This approximate 85-acre project, consisting of piers, upland and in-water areas, stretches along nearly 1.3-miles of the Brooklyn waterfront from the Brooklyn and Manhattan Bridges to Atlantic Avenue. The site is comprised of former warehouse Piers #1 through #6.



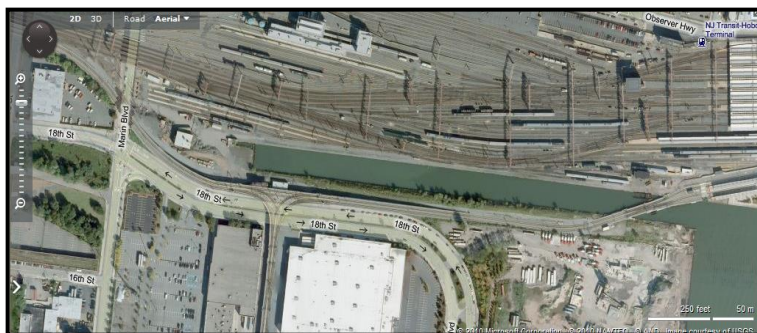
The goal of this project was to allow reuse of the deteriorated East River waterfront for public recreational use and other waterfront dependent uses. E2PM worked on this world class project since the early works and demolition of the former warehouses since 2008. The key features and resources of this project are the revitalization and the re-use of the former pier structures, namely Piers #1, #2, #3, #5, and #6.

E2PM served as the structural engineer of record for the completion of Pier #6 and the completion of Pier #5 Upland. For the Brooklyn Bridge Park, E2PM provided value engineering services, structural evaluations of the piers and the bulkheads, and also provided evaluations for the rehabilitation of historical & Landmark buildings within the park.



E2PM was also awarded the structural design services for the completion of the Pier #2 Upland, including the Sound Dam, and the Pier #3 Upland. In addition, E2PM evaluated several seawall failures and sink holes along the waterfront area between Piers #5 and #6.

**NJ Transit Long Slip Channel Rehabilitation Project (Hoboken Yards, Hoboken, NJ):** The E2PM Project Team was responsible for the complete evaluation of the failing bulkhead along 5,000-ft of waterfront which was retaining critical infrastructure within a major railyard. E2PM was also responsible for designing the rehabilitation of the bulkhead, as well as, a new bulkhead. Our Project Team performed:



- Underwater Inspections
- Geotechnical Investigations
- Environmental Soil & Groundwater Investigations
- A Review of the Project History & Designs



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**Former Maxwell House Coffee Facility (MHCF) Redevelopment Project (Hoboken, NJ):** The former Maxwell House site is located on Block #261, Lot #1, in the City of Hoboken, NJ. The site is a 24-acre parcel of waterfront property historically developed as a manufacturing site. From 1938 to 1988, General Foods Corporation used the property for processing, manufacturing, warehousing, offices and data processing. The primary processes during active operations at the facility were the roasting, grinding and packaging of coffee products under the trade name Maxwell House.



MHCF operated a solvent recovery system at the site prior to 1975 to recover trichloroethene (TCE) and methylene chloride (MC) used during the decaffeination process. Decaffeination was primarily conducted within Building #3. E2PM conducted and prepared various studies to demonstrate that natural attenuation that the TCE was occupying at the site. The waterfront was dominated by the Pier #11 building, the Pier# 10 peninsula and the Pier #9 silo building. These were used for the receipt of raw materials (coffee beans) via Hudson River barges and also for shipping finished goods.

*This project received the 2010 Smart Growth Award from New Jersey Future in the category of Mixed-Use Waterfront Enhancement and the 2011 Phoenix Award for E.P.A. Region 2.*



**Ferry Point Golf Course for New York City Parks Department (Bronx, NY):** The Ferry Point Park Brownfield Redevelopment Project site is located adjacent to the Whitestone Bridge and is bounded by the Hutchinson River Parkway, the East River, Schley Avenue, Emerson Avenue, and Balcom Avenue. The 413.8-acre site is one of the largest pieces of undeveloped parkland in New York City. The Ferry Point Park project involves the rehabilitation of this former landfill into athletic fields, new comfort stations, a waterfront park, and a signature golf course.



E2PM was retained by Hudson Valley Environmental Inc. to prepare a detailed Excavated Material Disposal Plan (EMDP) for the removal, testing, storage, handling, transportation and disposal of unregulated and regulated soil removed from the planned excavation of the Utility building area, the comfort station and the rail shield buildings. The soil at the former landfill area was characterized as having VOCs, SVOCs, pesticides, PCBs and metal contamination. The work was performed in accordance with all State and Federal regulatory requirements.

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### 3. ENVIRONMENTAL SERVICES

#### 3.1 LSRP & BROWNFIELD SERVICES

NJDEP worked closely with the New Jersey Legislature and stakeholders to develop legislation that dramatically changed the process used to conduct environmental investigations and cleanups. On May 7, 2009, Governor Jon Corzine signed the Site Remediation Reform Act, N.J.S.A. 58:10C-1 et seq. ("SRRA") into law. The Governor also signed Executive Order #140, implementing the new law. The new law implementing the SRRA and the Administrative Requirements for the Remediation of Contaminated Sites NJAC 7:26C (ARRCS), were enacted by NJDEP. The SRRA Law also modifies the following NJDEP regulations: Industrial Site Recovery Act (ISRA) NJAC 7:26B, Underground Storage of Hazardous Substances (UST) rules NJAC 7:14B, Brownfield and Contaminated Sites Act, the Technical Requirements for Site Remediation (Tech. Regs.) NJAC 7:26E, and the Spill Compensation and Control Act.

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The new SRRA regulation establishes a program for the licensing of LSRPs who will have responsibility for oversight of environmental investigation and cleanup. While the law changes the process of how sites are remediated, it ensures the same stringent standards required for cleanup remain intact. The NJDEP will retain significant authority over the remediation process and will ensure that LSRPs comply with all applicable regulations, but the day-to-day management of site remediation will be overseen by qualified LSRPs. Under SRRA, NJDEP approval is no longer required prior to proceeding with remediation. The party responsible for the cleanup must understand that all work completed under the LSRP is subject to applicable legal requirements. Key aspects of the new law are the following responsibilities:

- ❖ An affirmative obligation now exists on persons to remediate any discharge for which they would be liable pursuant to the Spill Compensation and Control Act.
- ❖ The NJDEP established mandatory remediation timeframes for the completion of key phases of site remediation.
- ❖ The NJDEP is required to maintain direct Department oversight in cases in which the remediating party is recalcitrant in conducting timely cleanups and for those sites that pose the greatest risk to human health and the environment.
- ❖ The NJDEP is authorized to establish presumptive remedies for residential development, schools and childcare facilities.
- ❖ Public Notifications responsibilities.
- ❖ The Licensed Site Remediation Professionals (LSRPs) are bound by a strict code of ethics, violation of which could result in the assessment of penalties as well as suspension or revocation of their licenses.

To date, E2PM has been selected by many Industrial Clients, including several ISRA cases to opt into the LSRP program. Since inception, E2PM's LSRP has expedited site closures by issuing Remedial Action Outcomes (RAOs). The LSRP work was audited and found acceptable by NJDEP. The following table includes a list of the current LSRP sites where E2PM has successfully performed services:

<u>Client/Site Name</u>	<u>Location</u>
Components Corporation	Denville, NJ
Former Turkish & Potash Site & Kellogg Street LLC & Former Colonial Concrete/Honeywell	Jersey City, NJ
Howard Berger Company	Monroe Township, NJ
Former Bisson Motors/Dover Dodge	Rockaway, NJ
Linwood Mall/Sulsky Properties	Fort Lee, NJ
Former TR-Metro Chemicals, Inc./Brenner Ridgefield LLC	Ridgefield, NJ
Seabrook Farms/Seabrook Brothers & Sons	Deerfield, NJ
CB Kaupp & Sons	Maplewood, NJ
Young's Equip. & Sales	Maplewood, NJ
TGP Holdings/NRW Russo	Newark, NJ
St. Aloysius Church	Jersey City, NJ
Hajjar Medical	Jersey City, NJ
Metro Foil Inc./Brenner Ridgefield LLC	Ridgefield, NJ
Former IGI Petroleum Site/ETC Management LLC	Perth Amboy, NJ
Former Van Leer Chocolate Factory/110 Hoboken Avenue Development Urban Renewal Co. LLC	Jersey City, NJ
High Point Chevrolet/Cloverleaf LLC	Sussex, NJ
Franklin Sussex Auto Mall/Duncar Realty	Wantage, NJ
Former American Modern Metals/Fulco Fulfillment LLC	Dover, NJ
Chatham DPW Spill/Verizon Wireless	Chatham, NJ
Resistol Hats/American Fur Felt	Newark, NJ
Bittan Properties	Glen Ridge, NJ
Selo Metal Products	Hawthorne, NJ
Former Cogeneration Facility ISRA Compliance/ Montclair State University	Montclair, NJ
500 High Street	Perth Amboy, NJ
Frank Anletta/Lloyd's Auto Repair	Orange, NJ

Overview of E2PM's full service environmental capabilities:

- **Strategic Environmental Planning** - E2PM works within a framework of long-term compliance improvement and sustainability. Our hands-on expertise with pollution prevention programs, stakeholder/community involvement, training and site remediation provides us with knowledge of the realities of compliance management.

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- **LSRP and Brownfield Services** - E2PM LLC is one of the most experienced engineering and environmental consulting firms in the New York/New Jersey Metropolitan area in performing investigations and designing and implementing the cleanup of sites contaminated with hazardous materials, toxic chemicals, and oil and petroleum products at former industrial site known as “Brownfield” sites.
  - **Waste Minimization and Recycling Programs** - Our experience in developing and implementing waste minimization programs has helped companies focus on reducing raw material and water use and the resulting waste to increase process efficiency.
  - **Environmental Due Diligence Assessments** - Our extensive experience conducting Phase I and Phase II due diligence audits and site assessments includes properties ranging from gas stations to historic industrial sites to some of the most complex Superfund and RCRA sites in the country. E2PM staff has completed thousands of investigations for lending institutions, law firms, insurance companies, developers and USEPA.
  - **Regulatory Compliance and Permitting Assistance** - E2PM’s staff experience includes ensuring compliance with environmental regulations. Staff have completed compliance audits for major industrial clients and large federal facilities, and prepared or reviewed hundreds of environmental permit applications for petrochemical refineries, steel foundries, public utilities and other large and small facilities.
  - **Ecological and Human Health Risk Assessment** - E2PM staff has performed human health and ecological risk assessments at hazardous waste sites and industrial facilities throughout the country for air, soil, sediment and groundwater contamination at complex industrial and waste treatment facilities, landfills, chemical spill sites, PCB and mining sites for numerous private and government clients.
  - **Contaminated Site Investigation and Cleanup** - We are experienced in investigating, designing and remediating contaminated sites. E2PM has developed and supported projects involving use of presumptive remedies, natural attenuation and risk-based cleanup. We have conducted remedial investigations, and followed these through to design, implementation, oversight and long-term monitoring.
  - **Natural and Cultural Resource Management** - We assist our clients by reviewing environmental programs and projects and providing analyses to provide cost-effective and environmentally sound solutions. We offer a full range of ecological and cultural resource management services.
  - **Asbestos and Lead-Based Paint Management** - Our staff has extensive experience in performing asbestos and lead-based paint surveys and managing abatement and removal projects. Our experience ranges from small-scale sampling and inventory projects to developing comprehensive management plans for asbestos and lead-based paint issues for industrial complexes. We have completed this work for utility companies, manufacturing facilities and other public and commercial properties. In addition, E2PM staff members have performed industrial hygiene inspections, air and noise monitoring and worker safety and OSHA audits at numerous facilities.

### 3.2 BROWNFIELD REDEVELOPMENT & CONTAMINATED SITE INVESTIGATION & CLEANUP

E2PM is one of the most experienced engineering and environmental consulting firms in the New York/New Jersey Metropolitan area for performing investigations and designing and implementing the cleanup of sites contaminated with hazardous materials, toxic chemicals, and oil and petroleum products at former industrial sites known as “Brownfield” sites. Our key staff has supported our Clients



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for nearly 25 years in site investigation and cleanup projects at several major brownfield sites. E2PM is proud of its award winning Brownfield projects, especially the former Maxwell House Coffee Company site, which received several Industry awards.

E2PM keeps current on all technological and programmatic issues facing the site remediation industry. Our expertise has supported projects involving innovative technology evaluation and implementation, use of presumptive remedies and natural attenuation, future land use and risk-based cleanup, and other initiatives.

## Representative Projects:

**Former Maxwell House Coffee Facility Redevelopment Project (Hoboken, NJ):** Managed the environmental aspects for the Former Maxwell House Coffee Facility Redevelopment Project, a 24-acre site on the Hudson River. The project was developed for 1.4 million sf of class “A” residential and commercial space.



E2PM managed every aspect of all the NJDEP submittals, including: Preliminary Assessment; Site Investigation; Remedial Investigation; Baseline Ecological Evaluation; Remedial Action Work Plan; Remedial Design; Remedial Action; Remedial Action Report; Deed Notice; Classification Exception Area; Hudson River Sediment Sampling; Aboveground Hazardous Waste Report and Environmental Assessment.

E2PM also supported the project developers establish a Brownfield redevelopment and regulatory strategy and remedial technology selection that has helped the redevelopers attract investments to the project, including the interests of environmental liability insurances. E2PM also assisted the Client’s negotiations with the regulatory agencies to obtain approval for both environmental and land-use permits, including Army Corp. of Engineer’s permits. The project also included the investigation of the existing facilities for hazardous waste, asbestos, lead, biological hazards, etc.

*This project received the 2010 Smart Growth Award from New Jersey Future in the category of Mixed-Use Waterfront Enhancement and the 2011 Phoenix Award for E.P.A. Region 2.*



**Former Van Leer Chocolate Company Facility (Jersey City, NJ):** E2PM successfully managed the environmental aspects for the remediation of the Former Van Leer Chocolate Company Facility as a Brownfield Redevelopment project. The 7+ acre site is divided into two parcels that were developed into mid-rise residential apartments. The site was severely impacted by



historical pesticide manufacturing which resulted in high concentrations of arsenic contamination in soils and groundwater.

Site investigations were conducted to characterize the soil and groundwater. Arsenic speciation studies were performed to determine the toxicity of the arsenic. A RAWP was prepared and submitted to the NJDEP. Various remediation technical approaches were studied to arrive at cost-effective remediation solutions. Due to the high levels of arsenic particular attention was paid for the health and safety aspects during the site remediation.

**Gargant Inc. Redevelopment Project (Jersey City, NJ):** E2PM provided environmental consulting and Phase II field sampling in preparation of a Preliminary Assessment (PA), Site Investigation (SI), Baseline Ecological Evaluation (BEE), a Remedial Action Work Plan (RAWP), and a remedial Design (RD) for a former automobile junk yard.

The proposed brownfield redevelopment will convert the site to mid-rise condominium apartments. The site will have engineering controls (capping), a deed notice after the contaminated hot spots are removed and a classification Exemption Area (CEA) for groundwater.



**TR-Metro Chemicals Inc. (TR Metro) (Ridgefield, NJ):** This property, formerly operated by TR-Metro Chemicals Inc. (TR Metro), consists of 2.5-acres located at the foot of Hudson Ave., Block 3805, Lot 10, in Ridgefield, NJ. The site is bordered on the west by Conrail Railroad and light industry; on the south by a parking lot and a shopping center; on the east by Route 1 (Broad Ave.); and on the north by Hudson St. and industrial facilities. It is designated on the Ridgefield Zoning Map for light manufacturing. TR Metro was the tenant of Brenner Ridgefield, LLC and operator of an organic chemical storage and distribution business at the site between 1987 and 1995.



A General Information Notification was filed on June 29, 1995 under N.J.A.C. 7:26B Industrial Site Recovery Act (ISRA). TR Metro ceased operations at the site in September 1995. Since the ISRA filing, the site has undergone several investigations which have included a Preliminary Assessment (1995), a Remedial Action Work Plan (RAWP) in 1997, and subsequently, a Remedial Action Report (RAR) in 2000 was prepared and submitted to the NJDEP which described the site investigations and remedial actions which had been conducted to address the Areas of Concern (AOCs) identified in the 1995 Preliminary Assessment.

The remedial actions included, the closure of 14 underground storage tanks (USTs) and 23 aboveground storage tanks as well as the installation of a soil vapor extraction/air sparging system (SVE/AR) to address groundwater recovery and treatment. The RAR-2000 recommended natural attenuation for groundwater. Having outstanding environmental issues, and no response from the NJDEP on the RAR-2000, Brenner Ridgefield LLC, retained E2PM to complete the environmental work at the site and to

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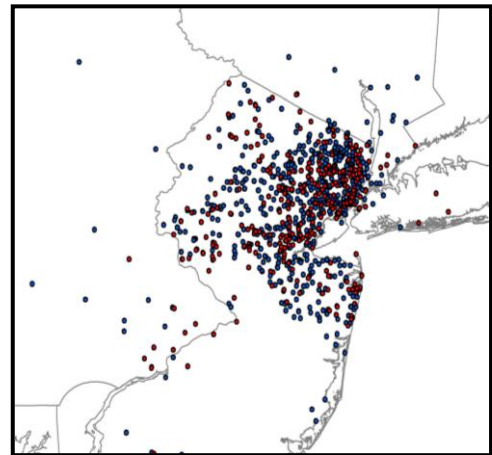
address continuing groundwater contamination of BTEX and chlorinated VOCs. The SVE/AR system had not functioned for several years and E2PM decommissioned the system.

**700 North Delaware Development Project (Philadelphia, PA):** The proposed redevelopment for this urban 10-acre site is two high rise apartment towers with town houses along the street with multilevel parking garages and associated amenities. The site has various historical commercial and industrial uses, including a Greyhound Bus maintenance facility.

E2PM supported the developers in performing an environmental due diligence for the acquisition of a two square block area of downtown Philadelphia adjacent to the Delaware River. E2PM performed an initial Phase I Environmental Site Assessment, including an aboveground hazardous waste assessment. Based on the result of the Phase I ESA, a Phase II screening site investigation was performed for soil and groundwater.

### 3.3 ENVIRONMENTAL DUE DILIGENCE ASSESSMENTS (PHASE I AND II)

E2PM is experienced in conducting Phase I and Phase II due diligence audits and environmental site assessments for properties at various locations ranging from small gas stations with one underground storage tank to some of the largest Superfund sites in the country. In all, we have completed thousands of Phase I audits and over 1,500 Phase II audits and sampling investigations nationwide under contracts with lending institutions, law firms, insurance companies, real estate developers and other Clients.



Our experience goes beyond performing simple and quick property assessments following ASTM procedures. We understand the needs of property owners and developers, can implement the entire site assessment and cleanup process, and have the ability to prioritize cleanups for multisite projects.

- Conducted Phase I, Phase II, NEPA and site acquisition services on a nationwide basis for Verizon, Nextel, and Sprint for over 200 sites.
- Performed over 25 Phase I and 15 Phase II site assessments for a wide variety of industrial sites with historical operations which has resulted in a wide range of contamination.

### 3.4 UNDERGROUND STORAGE TANK (UST) MANAGEMENT

E2PM's ability to manage UST programs includes site-specific tank surveys and tightness testing, site assessments, removal and closure of leaking tanks, and soil and groundwater remediation for leaking UST sites. E2PM performs site assessments, removal actions, soil and groundwater investigations, and remedial services at UST facilities in the NY/NJ metropolitan area. In all, we have developed and implemented UST management programs



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and performed site assessment and remediation activities for a large number of diverse sites.

E2PM has successfully removed many tanks throughout the state of New Jersey, both regulated and unregulated. E2PM has also been retained to remediate soil and/or groundwater at sites we've removed tanks from, as well as sites which have had tanks removed by others and received requests from the NJDEP for follow up investigative and sampling services. Utilizing trusted subcontractors, E2PM can assess tanks for leaking/discharges, remove and close UST systems in accordance with NJDEP regulations, address soil and groundwater contamination and handle all associated NJDEP paperwork from registration of UST systems, reporting of discharges to deregistering tanks upon removal.



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## Representative Projects:

### **Montclair State University - UST Removal (Montclair, NJ):**

In November 2013, Montclair State University (MSU) completed the construction of a new Combined Heating Chilling and Power (CHCP) Plant within the northwestern portion of MSU's campus. E2PM completed the Preliminary Assessment/Environmental Site Assessment (PA/ESA) for the proposed location of the CHCP.



E2PM prepared the technical specifications for MSU's bid to remove four (4) underground storage tanks (USTs) and dispenser pumps, located adjacent to the east of the former cogeneration facility. E2PM also prepared the project drawings that include existing site features, curbing, grades, retaining walls, man-ways, fill ports, piping, and stormwater inlets. Due to the relatively steep topography, E2PM provided a cross section of the UST field and proposed grading plan for the contractor. Detailed Soil Erosion and Sediment Control (SESC) and Stormwater Management measures were provided on the drawings, in accordance with state and local regulations. E2PM has been retained as the LSRP of record for the ISRA case and UST closures.

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**Closure/LSRP Oversight at 5 sites for CB Kaupp and Sons, Inc. (Maplewood, NJ):** First contracted in 2011, E2PM was retained by C.B. Kaupp and Sons, Inc. to complete several UST Closure and LSRP tasks for several properties along Newark Way in Maplewood, NJ.

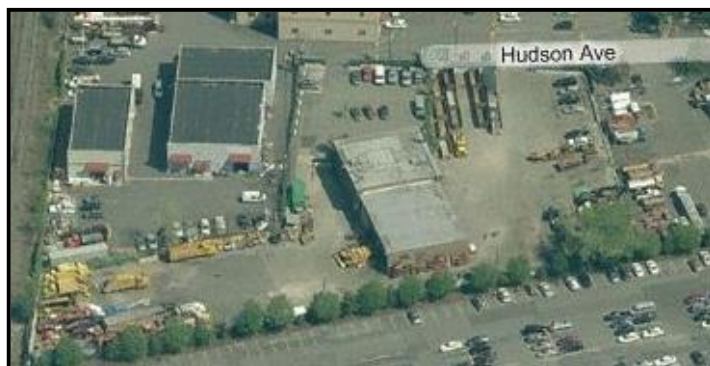


For each site location, E2PM has been responsible for the registration, oversight during decommissioning and closure of the USTs and post closure soil samples of each UST location.

Remedial activities also took place where applicable. Tasks that were typical for each site included Project Management, LSRP Election and Oversight Paperwork, UST Closure Oversight, Soil Sampling, Waste Classification Soil Sampling, Groundwater Investigations, Remedial Action Oversight, and Completion of UST Closure / Remedial Action Report.

**TR-Metro Chemicals Inc. (TR Metro) (Ridgefield, NJ):**

This property, formerly operated by TR-Metro, consists of 2.5 acres located at the foot of Hudson Avenue, Block 3805, Lot 10, in Ridgefield, NJ. The site is bordered on the west by Conrail Railroad and light industry; on the south by a parking lot and a shopping center; on the east by Route 1 (Broad Avenue); and on the north by Hudson Street and industrial facilities. It is designated on the Ridgefield Zoning Map for light manufacturing.



TR Metro was the tenant of Brenner Ridgefield, LLC and operated an organic chemical storage and distribution business at the Site between 1987 and 1995. The remedial actions included the closure of 14 underground storage tanks (USTs) and 23 aboveground storage tanks, as well as the installation of a soil vapor extraction/air sparging system (SVE/AR) to address groundwater recovery and treatment. The RAR-2000 recommended natural attenuation for groundwater. Having outstanding environmental issues, and no response from the NJDEP on the RAR-2000, Brenner Ridgefield LLC, retained E2PM to complete the environmental work at the site and to address continuing groundwater contamination of BTEX and chlorinated VOCs. The SVE/AR system had not functioned for several years and E2PM decommissioned the system.

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## 4. TELECOMMUNICATION SERVICES

E2PM offers extensive experience in providing the full spectrum of A/E design services, acquisition, management, construction management, and inspection and maintenance services for all types of telecommunication facilities, especially wireless infrastructure. Our Clients include the largest providers of public communications service, such as **Verizon Wireless, Sprint Spectrum LP, Nextel Communications Inc., AT&T Wireless and T-Mobile.**

E2PM Point of Contact:

**Jason Smolinski**

Tel. (973) 299-5200

Jason.Smolinski@e2pm.com

Founded in 2005, E2PM has retained top management with over 10 years' experience in each of their respective disciplines to lead our team of professionals. E2PM provides a full-service "one stop" resource to the wireless industry by providing traditional A&E Services, Environmental Consulting Services and Cultural Resource Consultation (Section 106 Consultation) within one Company. Our Staff has successfully aided in the delivery of over 2,000 wireless facilities to our Clients' respective markets.

E2PM provides the following Services in New York, New Jersey, Pennsylvania and Delaware:

- ❖ Site Feasibility & Constructability Studies
- ❖ Switching Centers
- ❖ Equipment Rooms Design & Layout
- ❖ Civil, Electrical, Mechanical, Structural design of Wireless Telecommunications Facilities
- ❖ Jurisdictional Negotiation & Land Use Planning
- ❖ Expert Witness Coordination & Testimony
- ❖ Environmental Compliance & Impact Studies
- ❖ CADD Drafting & Preparation of Construction Documents
- ❖ Final Inspection & As-built Drawings
- ❖ Site Surveys and FAA 2C and 1A Certifications
- ❖ Punch Lists & Document Control
- ❖ Phase I & Phase II ESA & Due Diligence Reporting
- ❖ Cultural Resource & Section 106 Consultation
- ❖ CAFRA Permitting
- ❖ Wetlands Delineation & Permitting
- ❖ Highlands Permitting
- ❖ Tower Inventories & Inspections



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## 5. ECOLOGICAL AND NATURAL RESOURCE MANAGEMENT

E2 Project Management (E2PM) recognizes the critical challenges that private companies and industries face in assessing the environmental impacts of their operations, policies, and economic decisions. We are experienced in assisting our Clients to assess these impacts by reviewing both existing and planned environmental programs and projects and providing innovative analyses that lead to cost-effective and environmentally sound solutions. We offer a full range of ecological and natural resource management consulting services to our Clients including:

E2PM Point of Contact:  
**Christopher Lanna**  
Tel. (973) 299-5200  
chris.lanna@e2pm.com

- ❖ Wetland Delineations
- ❖ Wetland Permits
- ❖ Ecosystem Restoration Studies
- ❖ CAFRA Permits
- ❖ USACE LOI/Permits
- ❖ Environmental Assessments
- ❖ Environmental Baseline Studies
- ❖ Letters of Interpretation
- ❖ Transition Area Waivers
- ❖ Mitigation Permits
- ❖ Waterfront Development Permits
- ❖ Stream Encroachment Permits
- ❖ Environmental Impact Statements
- ❖ Baseline Ecological Evaluations (NJDEP)
- ❖ Phase One Assessments
- ❖ Phase Two Investigations
- ❖ NEPA Screenings
- ❖ Threatened & Endangered (T&E) Species Habitat Evaluations
- ❖ T&E Surveys
- ❖ Invasive Plant Species Surveys
- ❖ Vernal Pool Identification
- ❖ GIS Based Natural Resource Studies
- ❖ GPS Surveys (Wetland Points, Tree Surveys, Structures)
- ❖ New York SECOR
- ❖ Watershed Management
- ❖ Phase One Assessments
- ❖ Phase Two Investigations
- ❖ NEPA Screenings

### Representative Projects:

- ❖ Completed an Environmental Assessment for the Proposed Activities Center at the US Military Academy in West Point, NY.
- ❖ Managed and oversaw the preparation of a Mollusk and Crayfish Survey for the Primary Watershed at the U.S. Military Academy, West Point, NY.
- ❖ Completed permitting requirements and an Endangered Species Investigation, for nesting Peregrine falcons, for the rehabilitation of the Newark Bay Bridge. Permits included those for the Coast Guard; wetlands; waterfront development; as well as air permits. Nesting Peregrine falcons were investigated to protect the endangered species during the rehabilitation of the bridge.
- ❖ Completed wetland delineations and prepared wetland applications to the NJDEP for sound barriers along the New Jersey Turnpike.



- ❖ Oversaw and completed an Indiana Bat Survey for Picatinny Arsenal. Survey included background research into nest habitats for the bats and field captures of local bats to determine if Indiana bats inhabited the area.



- ❖ Prepared hundreds of Phase I Assessments, Threatened & Endangered Species Surveys, Ecological Evaluations, Environmental Impact Assessment Reports, and state and local permit applications in preparation for the installation of telecommunications antennas at numerous locations throughout the Tri-State area.
- ❖ Prepared and submitted a Sampling & Analysis Plan; an EO 215 Report; and a Hazardous Waste Screening Report; also delineated wetlands and prepared all permits for the Grand Street Ramp Widening Project in Jersey City, NJ and the Garden State Parkway Interchange 123 Improvements Project for the New Jersey Turnpike.
- ❖ Managed and prepared all documents and studies for the Passaic Flood Control Feasibility Study Project for the US Army Corps of Engineers, New York District.
- ❖ Delineated wetlands and prepared all permit applications for the 3500 Area Homeland Defense Technologies & Security Readiness Center at Picatinny Arsenal.
- ❖ Prepared environmental documentation for the demolition and reconstruction of a New Post Chapel at Picatinny Arsenal.
- ❖ Prepared environmental documentation, evaluate wetlands and endangered species habitats for a Proposed High-Tech Park at Picatinny Arsenal.
- ❖ Prepared environmental documentation and evaluated wetland areas for the construction of an Outdoor Firing Range at Picatinny Arsenal.
- ❖ Completed an Environmental Assessment Report for a Utility Improvement Project at the McGuire Air Force Base in Lakehurst, NJ.
- ❖ Completed an Environmental Assessment Report for a proposed Utility Privatization Project for the U.S. Military Academy in West Point, NY.
- ❖ Performed vegetation studies, GIS mapping, wetlands delineation, and wetland mitigation for the Jamaica Bay Restoration Project for the US Army Corps of Engineers in Jamaica Bay, NY.
- ❖ Performed vegetation studies, GIS mapping, wetlands delineation, and wetland mitigation for the Spring Creek Project for the US Army Corps of Engineers in Spring Creek, NY.
- ❖ Performed vegetation studies, GIS mapping, wetlands delineation, and wetland mitigation for the Howland Hook Marine Terminal, BUG Site Project for the US Army Corps of Engineers in Staten Island, NY.
- ❖ Performed NEPA studies for various Airports throughout NJ.
- ❖ Performed wetland, EIS and endangered species review for the Proposed Route 92 Project for the New Jersey Turnpike Authority.



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- ❖ Performed a Lead & Asbestos Investigation, as well as a Geotechnical & Subsurface Investigation for NJ Transit at the Clifton Bus Facility in Clifton, NJ.
  - ❖ Prepared Environmental Assessment & Environmental Site Investigation Reports for the Red and South Amboy Train Station for NJ Transit in South Amboy, NJ.
  - ❖ Performed a Hazardous Waste Screening and NEPA Study for the Proposed Route 29 Bikeway project for the NJDOT in Trenton, NJ.
  - ❖ Performed a Hazardous Waste Preliminary Screening Report for the Route 22/Chimney Rock Road Project for Somerset County and NJDOT.
  - ❖ Performed a Hazardous Waste Screening and Preliminary Screening for the Route 17/Passaic Street Project in Rochelle Park, NJ.
  - ❖ Performed a Hazardous Waste Screening and Preliminary Screening for the Two Bridges Project for Passaic County and the NJDOT in Wayne, NJ.
  - ❖ Completed Wetland Permitting for the Ponds at Cobblestone in Montville, NJ.
  - ❖ Prepared the Waterfront Development Permit for the STS Tire Center in Hackensack, NJ.
  - ❖ Prepared Wetland Permitting for the International House of Pancakes in Succasunna, NJ.
  - ❖ Completed a UST Removal for the NYDOT at the Staten Island Ferry.
  - ❖ Prepared Phase I and II Investigation Reports for Prestige Bank at various sites in Flemington, NJ.
  - ❖ Performed Environmental Insurance Oversight at various sites for the Prudential Insurance Co.
  - ❖ Prepared a Wetland Delineation, Permitting & Endangered Species Investigation Report for a private developer in Montville, NJ.



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## 6. CULTURAL AND ARCHEOLOGICAL RESOURCES MANAGEMENT

### 6.1 CULTURAL RESOURCES MANAGEMENT

Since 2006, the Cultural Resources Management division of E2 Project Management (E2PM) has provided a full range of cultural resources management services in support of Federal, State and local environmental permitting required for the development of infrastructure improvements throughout New Jersey, New York, and Pennsylvania.

E2PM Point of Contact:  
**Scott Wieczorek**  
Tel. (973) 299-5200  
Scott.Wieczorek@e2pm.com

E2PM continuously collaborates with our Clients and adapts our services to identify solutions to their cultural resource compliance needs. With more than 150 years of combined experience in the regulatory field, our cultural resources professionals possess extensive knowledge of the history and prehistory of the Northeast US as well as permitting requirements related to conducting cultural resources investigations.

E2PM has provided cultural resources services in support of a variety of projects ranging in size from localized cellular telecommunications facilities to large scale multi-state linear overhead electrical transmission corridors. We have an outstanding reputation for providing innovative and exceptional services to a wide range of Clients and projects resulting in successful solutions and achievement of project goals.

E2PM has completed more than 700 cultural resources management projects in the tri-state region of New Jersey, New York, and Pennsylvania. Our professional cultural resources services include:

- Phase I - Archaeological Assessments & Surveys
- Phase II - Archaeological National Register Eligibility
- Phase III - Archaeological Data Recovery & Mitigation
- Artifact Analysis & Curation
- Assessment of Effects
- Cemetery Documentation
- Cultural Resource GIS
- Environmental Impact Statements
- Expert Witness Coordination & Testimony
- FCC Forms 620 & 621
- Geomorphology
- Geophysical Surveys
- Historic Architectural Surveys
- Historic Building Tax Credit Consultations
- Historic Research
- HABS/HAER Documentation
- Large Format Photography & Mitigation Plans
- Monitoring Programs
- National Register Nominations
- Nation Wide Programmatic Agreement Screenings
- Native American Consultations
- Predictive Modeling
- Regulatory & Compliance Consulting Pursuant to (partial-listing):
  - Federal Section 106
  - Federal Archaeological Resources Protection Act
  - Federal Clean Water Act Section 404
  - NJ Freshwater Wetlands Act
  - NJ Register of Historic Places Act
  - NJ Highlands Act
  - NJ Pinelands Act
  - NJ Executive Order 215
  - PA History Code
  - NY City Environmental Quality Review (CEQR)
  - NY State Environmental Quality Review Act (SEQRA)

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All of our cultural resources management projects are conducted in accordance with the legislation pertinent to the project and meets or exceeds the requirements of Section 106 of the NHPA, as well as the guidance and regulations from the State Historic Preservation Offices (SHPOs). In addition to the NHPA, state and local legislation pertinent to conducting cultural resources investigations in support of project permitting in New Jersey include but are not limited to the New Jersey Register of Historic Places Act Rules (N.J.A.C. 7:4); Freshwater Wetlands Protection Act Rules (N.J.A.C. 7:7A); Flood Hazard Area Control Act Rules (N.J.A.C. 7:13); Highlands Water Protection and Planning Rules (N.J.A.C. 7:38); Coastal Area Facility Review Act (CAFRA) (N.J.S.A. 13:19); Waterfront Development Act (N.J.S.A. 12:5-3) and NJ Executive Order 215.

E2PM employs innovative technological services including Global Positioning Satellite (GPS) devices and Geographic Information Systems (GIS) databases for planning and conducting our investigations and analyses of the results of our investigations. For example, E2PM employs ESRI ArcView 10.0 software and geo-referencing as integral components to its historic documentary and cartographic research and artifact distribution analyses. E2PM also contracts on an ‘as-needed’ basis with experts in a variety of specialized technical and analytical disciplines including remote sensing/ground penetrating radar and metal detecting, radio carbon dating, archaeobotanical analysis, geomorphology and large format photography (HABS/HAER/HALS).

Our team includes a highly qualified staff of Registered Professional Archaeologists (RPA) and Architectural Historians that exceed the Secretary of the Interior’s (SOI) “Standards and Guidelines for Archeology and Historic Preservation (48 CFR 44716)”. These standards are prepared under the authority of Sections 101 (f) (g) and (h) and Section 110 of the National Historic Preservation Act (NHPA) of 1966.



Mr. Kristofer M. Beadenkopf, M.A., RPA and Mr. Lauren Cook, M.A., RPA meet the SOI standards as Archaeologists. Mr. Joseph Schuchman, Ms. Marianne Walsh, Ms. Joan Nix, RA., and Ms. Samantha Cesarini meet the SOI standards as Architectural Historians. Senior cultural resources staff is supported by archaeological field technicians and field directors, junior architectural historians and historians, as well as office and logistic staff.

E2PM’s cultural resources management staff is strategically located in Northern and Southern New Jersey as well as Northeastern and Southeastern Pennsylvania. As such, we are capable of rapidly mobilizing our efforts in support of projects throughout the Tri-State region. E2PM understands that service, quality, communication, schedule, and budget are the cornerstones of a successful project. We have the necessary staff and infrastructure to ensure that these essential foundations are maintained throughout our projects.

## 6.2 ARCHEOLOGICAL RESOURCES MANAGEMENT

E2PM’s archaeologists have designed, implemented, and completed all levels of archaeological investigation including Phase IA archaeological sensitivity assessments, Phase IB archaeological surveys, Phase II National Register of Historic Places (NRHP) eligibility excavations, and Phase III archaeological data recovery. We have prepared artifact collections for permanent curation at state museums and the National Park Service. E2PM’s archaeologists also routinely consult and coordinate with State Historic Preservation Offices (SHPOs), Federal agencies, and Native American Tribes. All of our work is completed by Secretary of the Interior (SOI) qualified professional archaeologists and according to the



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requirements outlined by Section 106 of the National Historic Preservation Act and SHPO guidelines. E2PM's archaeologists have completed more than 300 archaeological investigations for a wide variety of projects ranging from small telecommunications compounds to large multi-state linear utility corridors.

### Representative Projects:

#### **Phase I Archaeological Survey – Proposed Telecommunications Facility, Village of Ridgewood, NJ:**

Following the requirements outlined in the 2005 Nationwide Programmatic Agreement for the construction of new telecommunication facilities and Section 106 of the National Historic Preservation Act, E2PM undertook an innovative approach to the archaeological investigations necessary for compliance with the Section 106 review process for this unique project location. In addition to being located within a cemetery, historic research and consultation with the New Jersey Historic Preservation Office (NJHPO) indicated that the project's area of potential effects (APE) was considered to have the potential to contain Revolutionary War period archaeological deposits associated with an encampment of the Commissary Department of the Continental Army in 1778.



E2PM conducted a program of close interval shovel test pit excavation at 10-foot intervals as well as metal detecting and ground penetrating radar (GPR) surveys to identify and record any metal Revolutionary War period artifacts and unmarked grave shafts within the APE. The archaeological and GPR surveys confirmed that no Revolutionary War period archaeological deposits or unmarked graves were present within the APE and as such, the NJHPO concurred that proposed project would not have an effect on burials or archaeological resources.

#### **Phase I Archaeological Survey – Proposed Medical Arts Building, Franklin Township, NJ**

E2PM conducted a combined Phase IA and Phase IB (Phase I) archaeological survey including background research, archaeological assessment and the excavation of more than 90 shovel test pits within areas of high and moderate archaeological potential. The project was conducted in compliance with the NJ Freshwater Wetlands Act (N.J.A.C. 7:7A) and the NJ Register of Historic Places Act Rules (N.J.A.C. 7:4-8.4). No archaeological sites were identified within the project area and as such, the project was determined to have no effect on historic properties.



**Phase I, II, and III Archaeological Investigations – Undisclosed 500kV Upgrade Transmission Project, Warren County, NJ:** E2PM conducted Phase IB, Phase II, Phase III archaeological investigations, and archaeological monitoring during construction of a 2.7 mile segment of a 500kV transmission upgrade project within the Delaware Water Gap National Recreation Area in Warren County, NJ. The work involved field investigations, preparation of report documents, consultation with the National Park Service (NPS) and the NJHPO to support the Project in compliance with the National Environmental Policy Act (NEPA) and Section 106 requirements of the National Historic Preservation Act as stipulated in the Record of Decision (ROD) issued to the Project by the NPS.



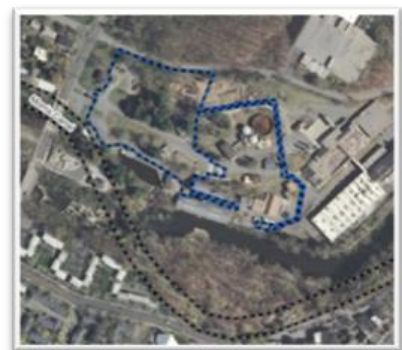
E2PM performed Phase III data recovery excavations to mitigate adverse effects to a NRHP eligible prehistoric site and quickly mobilized with additional Phase III investigations to meet the needs of the Project when Project designs were altered and additional area was required within the site for construction. E2PM also identified one previously unknown archaeological site within the Project's right-of-way, as well as historic stone wall alignments. Rapid consultation with the NPS and the NJHPO resulted in the development of measures that would avoid adverse effects to the resources and allow construction to continue with no delay.

**Phase I and II Archaeological Investigations – Undisclosed 500kV Upgrade Transmission Project, Monroe and Pike Counties, PA:** E2PM conducted Phase IB, Phase II investigations, and archaeological monitoring during construction of a 1.7 mile segment of a 500kV transmission upgrade project within the Delaware Water Gap National Recreation Area in Monroe and Pike Counties, PA. The work involved field investigations, preparation of report documents, consultation with the National Park Service (NPS) and the Pennsylvania Historical and Museum Commission (PHMC).



E2PM identified one previously unknown archaeological site within in an access road as well as historic stone wall alignments. Rapid consultation with the NPS and the PHMC resulted in the development of measures that would avoid adverse effects to the resources and allow construction to continue without delay.

**Phase I Archaeological Survey – Little Falls Water Treatment Plant Water Storage Improvement Project, Totowa, NJ:** E2PM provided archaeological survey services to the Passaic Valley Water Commission in support of permitting associated with its Water Storage Improvement Project within its Little Falls Water Treatment Plant. The survey work was required by the NJ Department of Environmental Protection (NJDEP) and conducted in accordance with regulations set forth in the Financial Assistance Programs for Environmental Infrastructure Facilities (N.J.A.C. 7:22); the NJ Register of Historic Places Act Rules (N.J.A.C. 7:4); and the requirements of Section 106 of the National Preservation Act of 1966.



The archaeological survey included background research, NJ Historic Preservation Office (NJHPO) and interested/knowledgeable party consultation, assessment of archaeological potential, Phase IB subsurface survey, artifact analysis, and reporting for NJHPO review. The NJDEP and NJHPO concurred that no archaeological resources were encountered in the course of testing that might provide significant or new information on domestic or industrial processes within the APE.

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## 6.3 HISTORIC STRUCTURE SURVEYS, RESTORATION & PRESERVATION

E2PM's architectural historians have designed, implemented, and completed all levels of historic architectural survey (reconnaissance & intensive levels, assessment of effects, historic structures reporting, Historic American Building Survey/Historic American Engineering Record documentation) and have provided design and consultation pertaining to restoration and preservation of historic architectural resources.

All of our work is completed by Secretary of the Interior (SOI) qualified professional architectural historians and according to the requirements outlined by Section 106 of the National Historic Preservation Act and SHPO guidelines. E2PM's architectural historians have completed more than 400 projects involving historic architectural resources for numerous projects ranging from small telecommunications compounds to large multi-state linear utility corridors with more than 300 individual resources.

### Representative Projects:

**Historic Architectural Survey – New Jersey Training School for Boys (Monroe Township, NJ):** To fulfill a Memorandum of Agreement (MOA) between the NJHPO and Verizon Wireless, E2PM conducted primary and secondary research, conducted multiple site visits to the facility to survey and photograph the a total of 52 historic buildings and property of the NRHP-eligible juvenile corrections facility.



E2PM also examined the structures for construction history, architectural characteristics, physical condition and historical significance. That information was used to prepare a building-by-building architectural description, NRHP eligibility survey, and a building history of the facility and evaluation and analysis of the significance of the Training School within the context of juvenile and correctional institutions.

**Historic Structures Report Update – The Willows At Fosterfields (Morristown, NJ):** The Willows at Fosterfields is a Morris County-owned house listed in the New Jersey and National Register of Historic Places. The Gothic Revival style house was built as a country villa in 1854 for Joseph Warren Revere, and later became part of a gentleman's farm known as Fosterfields. The house is an important example of Gothic Revival architecture and is a unique interpretation of Revere's taste, and includes trompe l'oeil wall paintings and an early use of Minton floor tiles in the US.



E2PM provided the Morris County Park Commission with the following services to develop planning documents that would be used to guide future stabilization and repairs to the building:

- Updated the 1983 Historic Structures Report (HSR)
- Assessed the current conditions of the site
- Documented the conditions through measured drawings & photographs
- Assessed the structural, mechanical, fire protection, plumbing & electrical systems
- Provided recommendations for future treatment of the property





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**Historic Architectural Survey and Assessment of Effects - Undisclosed 345kV Upgrade Transmission Project, Bergen and Hudson Counties, NJ:** As a component of an overall plan to address criteria violations for short-circuit over-duties, overloads, and stuck breaker contingencies, an existing 138kV electrical transmission corridor required upgrades to support 345kV transmission. Following consultation with the NJ Office of Historic Preservation, a comprehensive investigation was undertaken by E2PM to identify all NRHP listed, eligible and potentially eligible resources in and within a ¼ mile radius area of potential effects (APE) of the Project.



A total of 333 historic architectural resources over the age of 50 years were identified within the APE and surveyed for the Project, thirteen of which were previously listed or determined eligible for listing in the National Register, including the Dutch Reformed Church of the English Neighborhood (built in 1793).



Analysis of the proposed undertaking's potential effects on NRHP listed eligible and potentially eligible historic resources indicated that due to distance, intervening buildings, and general existing industrial and commercial nature of the surrounding area (both current and historical), the replacement of the existing transmission towers would have no adverse effect on NRHP listed, eligible, or potentially eligible historic properties, as well as any historic resource over the age of 50 years regardless of eligibility. The NJHPO concurred with E2PM's findings and the Project proceeded without delay.

**Preservation Plan - Lake Drive School (Mountain Lakes, NJ):** E2PM prepared a Preservation Plan for the Lake Drive School building in Mountain Lakes, NJ. Constructed in 1914, the school building is a contributing resource in the Mountain Lakes Historic District and is a regional school for deaf and hearing impaired students. As part of the background research for the Project, E2PM reviewed and analyzed primary documents at the Morris County and Mountain Lakes archives.



E2PM prepared a room by room description of the existing conditions of the interior of the building and also photographed the interior and exterior of the building and prepared measured plan and elevation drawings of the building. The Preservation Plan prepared by E2PM described the existing structure and its site, the developmental background and historic context of the school, and analyzed the existing conditions and proposed a treatment and use plan for the building. Roof reconstruction documents were prepared to assist the Borough of Mountain Lakes to create a historically accurate reconstruction of the roof. The reconstructed roof was proposed as a cedar shingle roof. The roof project was designed to meet the Secretary of the Interior's Standards for the Treatment of Historic Properties.

The preparation of the Preservation Plan and the roof reconstruction documents were both funded by a grant from the Morris County Historic Preservation Trust Fund, and E2PM was instrumental in obtaining the grant. In addition, E2PM worked closely with the Borough of Mountain Lakes to successfully obtain a second grant from the Morris County Historic Preservation Fund in the amount of \$261,000 for the roof construction. This grant was the second highest in Morris County.



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## 7. LAND DEVELOPMENT SERVICES

### 7.1 SITE DEVELOPMENT & LAND USE

E2 Project Management's (E2PM) Site Redevelopment capabilities ranges from site master planning and sustainable design solutions to engineering for the redevelopment of Brownfield Properties. We have provided planning, design, construction inspection and oversight, project management, and resident supervision for sites built for many different uses. Our expertise includes commercial and residential sites, as well as large, mixed use and master planned sites.

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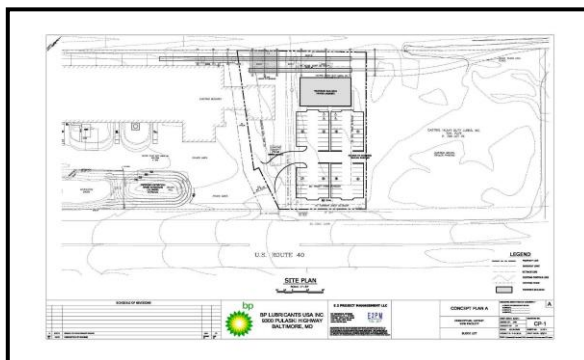
### Representative Projects:

**Ecocomplex – Conceptual Design Prototype Net Zero Energy Facility (Picatinny, NJ):** Throughout the site planning and design phase of this Project, E2PM gave great consideration to Low Impact Development (LID) techniques and best management practices (BMPs) that focus on achieving a sustainable and green project. The LID and BMPs employed reduce the amount of disturbance and percentages of impervious and non-native vegetated cover, while maximizing the natural hydrologic functions of the site.



Approximately 6.57-acres of the subject property's total 10.41-acres are located within the 150ft regulated wetlands transition area buffer. At present, approximately 2.20-acres of this area within the wetlands buffer is disturbed with impervious surface area. The redevelopment of the subject property with the proposed EcoComplex will ultimately restore approximately 1.25-acres of the 2.20-acres of existing impervious surface area within the wetlands buffer to pervious surface area. The proposed EcoComplex project will create approximately 1.03-acres of wetlands and 0.09-acres or 3,800sf of upland forests within the C1 stream corridor. LEED credits within the categories of Sustainable Sites and Water Efficiency are very similar to the practices of LID and BMPs, so that meeting one set of goals goes a long way toward meeting the other sets.

**BP Lubricants (Baltimore, MD):** E2PM prepared site plan studies for a new 10,000sf facility together with parking areas of adequate capacity to accommodate the workforce in accordance with zoning regulations. The study was prepared for BP Lubricants USA Inc. (BP) manufacturing facility located at 9300 Pulaski Highway, Baltimore, MD. The task included site visits, interviews with the client, zoning analysis, stormwater analysis and the preparation of three (3) siting alternatives.



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**Hilltop Residential Redevelopment (Irvington, NJ):**

Urban Builders Collaborative will demolish this 6-acre former Irvington General Hospital and redevelop the site with a mixed-use residential and commercial development. The redevelopment project will have a major impact for the urban revitalization of the depressed urban enterprise zone. For this Project, E2PM engineering and design staff completed the following services for the Project Owner:



**Subdivision:** Working closely with the Township planner, the project architect, and the project planner, E2PM prepared the required subdivision documentation and plats. E2PM prepared the initial site property and topographical survey and translated this data to the required 6-lot subdivision, which accommodated the proposed 770-unit development along with restaurant, day care, and multi-level parking structures.

**Site Plan Preparation and Planning Board Approval:** In accordance with the Irvington Township Ordinance, E2PM's engineers and CAD designers helped to complete the Preliminary and Final Site Plans for review and ultimate approval by the local Planning Board.

Working closely with the project architect, landscape architect, site lighting consultant, and traffic consultant, E2PM prepared the required site plans that included the design of the sanitary, domestic water, stormwater management, irrigation, and firewater systems. E2PM's engineers and CAD designers designed the following key project elements:



- Onsite parking layout
- Trash collection
- Final site grades that minimize cut and fill
- Stormwater management and reuse systems
- Low impact, sustainable and green strategies
- Soil erosion and sediment control measures
- Site utilities (firewater, potable water, stormwater, electrical, telecommunication)
- Local, County, and State Permits – the following permits were identified: Essex County SESC permit, County Planning Board Permit, Curb Cut Permit. Specifically excluded are any NJDEP requirements to close the open environmental issues for the site.

**Demolition Bid Support and Pre-Demolition Tasks:** Following the municipal planning board approval, E2PM was further retained to help prepare the necessary demolition bid documents and pre-demolition tasks.

**Hazardous and Nonhazardous Materials Survey:** Prior to the demolition of the former hospital buildings, E2PM completed a detailed inventory of the existing hazardous and non-hazardous materials at the site. E2PM collected lead paint chip samples, suspect asbestos containing material (ACM)

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samples, and concrete/brick/caulking samples to further assess and characterize the existing building materials prior to demolition activities. The results of the visual assessment and analytical sampling were compiled in a detailed Waste Assessment Report that included recommendations for the handling and disposal of the various waste material types, based on local, State and Federal regulations.

**Demolition Bid Support:** In collaboration with the Project Owners, E2PM prepared the bid documents, including the technical specifications and drawings, for the demolition of the former hospital site. The bid documents included a summary of the differing building construction and existing conditions of the various hospital additions, proposed demolition plan, schedule and sequencing, and demolition waste management plan.

**Demolition Oversight & Environmental Compliance:** Representing the Project Owner and ensuring environmental compliance, E2PM will provide demolition oversight, specifically related to SESC, noise, and dust control; hazardous and non-hazardous waste storage; transport and disposal; third-party ACM air monitoring; underground storage tank removal and regulatory closure; spill control and overall construction site health and safety. E2PM's professional engineers will also be available to represent the Project Owner during the demolition activities.

**Stormwater & Sanitary Sewer Management:** In accordance with Chapter 172 of the Irvington's Township Ordinance, E2PM prepared the required stormwater calculations and drawings required for meeting this ordinance and gaining the Township engineer's approval. Innovative low impact development strategies incorporated by E2PM include stormwater infiltration via bio-swales and stormwater collection and harvesting for irrigation of green roofs and landscaping areas.

E2PM identified and evaluated the existing storm and sanitary flows and compared these flows to the proposed future rates and volumes. The existing municipal/county infrastructure was evaluated to determine future capacity, and E2PM designed upgrades where needed. E2PM met with the water and sanitary sewer authorities and gained approval for Phase I Development.

E2PM prepared the Soil Erosion and Sediment Control (SESC) Plan and received certification from the local Soil Conservation District, along with authorization from the NJDEP for a NJPDES Construction Activity Stormwater GP (5G3). E2PM will provide oversight services to ensure SESC and stormwater management compliance during demolition of the former hospital building. E2PM has also been retained to finalize the design of the site's topography, utilities, and stormwater management for Phase I Construction.

**Phase I Construction:** E2PM was recently named the engineer of record for Phase 1 Site Construction, which includes the construction of Building A – a 13-story, 198-unit residential apartment building, associated parking and landscaped areas.

## **7.2 LAND-USE PERMITTING**

Our planning for the design phases of a construction program is an on-going process that starts with the pre-design activities (site assessment and evaluation), and continues throughout the life of a project. Design development activities (engineering calculations through construction feasibility) and final design (preparation of plans and specifications, bid documents, and bid process support) all are typical planning elements provided by our architectural and engineering designers. We are very experienced in providing

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our Clients with comprehensive plans and permitting support for every aspect of building including working with towns and cities to provide financing and liaison with other regulatory agencies.

Early and on-going communications with the appropriate regulatory agencies involved in construction programs ensures that our projects are completed on schedule without aggravating and costly delays. Our comprehensive planning and permitting services include:

- ❖ Site Assessments
- ❖ Land Yield Studies
- ❖ Program Management
- ❖ Master Planning
- ❖ Public Hearings
- ❖ Due Diligence
- ❖ Permitting/Zoning
- ❖ GIS Mapping



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## 8. CONSTRUCTION SUPPORT SERVICES

Successful construction starts with solid plans and effective project management skills. Challenges, such as budget, availability of resources, weather, and constructability arise for even the most experienced construction manager. E2PM's approach to construction management is simple –

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***We anticipate the challenges before they become problems.***

Our experienced construction managers are supported by automated systems for scheduling, budgeting, resource loading, cash flow, and document management. These systems keep our managers informed of a project's status on a *daily basis*, allowing them to manage their projects with flexibility and ability to respond quickly to changes.



Throughout the course of a construction project, plans are often continually refined and construction schedules impacted, due to unexpected site conditions.

E2PM understands and values the *importance of regular communication with our clients and contractors*. That is why our project managers are especially effective at aiding in the development and meeting construction schedules.

Through our commitment to on-going communication, E2PM project managers form a partnership with our Clients and subcontractors so that project challenges are identified quickly and refinements are made early in the process.

### **E2PM's Construction Management Services include:**

- |                                      |  |
|--------------------------------------|--|
| ❖ Consultant Coordination/management | ❖ Earthwork Oversight                  |
| ❖ Site Management                    | ❖ Fill Compaction Testing              |
| ❖ Cost Control/Quality Control       | ❖ Reinforcing Steel Inspection         |
| ❖ Construction Documentation         | ❖ Concrete Inspection                  |
| ❖ Contract Administration            | ❖ Foundation Inspections               |
| ❖ Construction Inspection            | ❖ Pavement Inspections                 |
| ❖ Construction Survey Stake-Out      | ❖ Structural Steel Inspection          |
| ❖ CPM Scheduling                     | ❖ Retaining Wall Inspections           |
| ❖ Review of Submittals               | ❖ Construction Monitoring              |
| ❖ Change Order Negotiations          | ❖ Demolition Planning & Oversight      |
| ❖ Mitigation of Claims               | ❖ Special Inspections Required By Code |
| ❖ Document Control                   | ❖ Material Testing Services            |

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## 8.1 CONSTRUCTION SUPPORT SERVICES

E2PM's Construction Support Services Division provides oversight services during all project phases, from pre-construction through post-construction and close-out phase. Our experience includes infrastructure facilities, parks and recreation, waterfront development, hazardous materials abatement, commercial development, and health care facilities. E2PM has supported a number of infrastructure clients through the performance of construction permit services, and has filed for and received hundreds of building permits in municipalities throughout New Jersey, as well as from the Port Authority of New York & New Jersey, Meadowlands Commission, and Department of Community Affairs.



E2PM specializes in Quality Assurance & Quality Control (QA/QC), ensuring compliance with the project plans and specifications. E2PM has the capabilities and experience to perform detailed construction monitoring services, resident engineering services, and construction surveying services. Our growth and success in this market sector is based on effective communication, coordination, project documentation, project safety management, estimating, scheduling, and the daily management and inspection of construction activities.

**The E2PM Construction Support Services Division focuses on the following major areas:**

- ❖ Pre and Post Construction Surveys
- ❖ Construction Permitting Services
- ❖ Construction Monitoring Services (Vibrations, Dust, Noise, Air)
- ❖ Environmental Monitoring, Inspections, and Permitting
- ❖ Resident Engineering Services
- ❖ Support of Excavation Services
- ❖ Construction Layout Surveying
- ❖ Home Office and Resident Engineering Services



## 8.2 PRE AND POST CONSTRUCTION SURVEYS

E2PM has developed comprehensive plans to assess existing conditions of structure that have the potential to be impacted by construction activities. E2PM documents the external and internal conditions of the structures of interest. E2PM utilizes digital video recorders and digital cameras to document the condition of the structures immediate adjacent or surrounding the subject construction site.

E2PM provides a summary report that summarizes the entire monitoring program and the findings from the survey with photographs and written descriptions. Each report includes recommendations (for our clients and/or subcontractor) provided by E2PM's trained construction managers and professionals engineers. Following completion of the construction activities, a post-condition survey will be undertaken of the structures and this survey will also include photography undertaken in the same manner as the pre-monitor baseline condition survey and preparation of a report which will evaluate the data collected and comment on the extent, if any, of any damage incurred to the subject structures.

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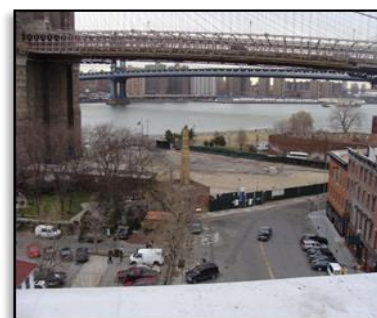
## Representative Projects:

**West 35<sup>th</sup> Street (Manhattan, NY):** The project site and the adjacent surrounding buildings are located in New York City's Garment District. E2PM was contracted by HARCO Consultants, Corp. to inspect the structures adjacent to the construction site of a proposed commercial building at 223 West 34<sup>th</sup> St. The construction project includes significant underpinning at the surrounding properties.



E2PM developed and performed a monitoring program that included a pre-inspection of the exterior façade, baseline mapping utilizing AutoCAD, installation of survey targets, and optical readings (taken to an accuracy of +/- 0.01 ft. (3 mm)). The findings were reported to the Client on a daily-basis and a final summary report prepared.

**The Brooklyn Bridge Park Development Corporation (BBPDC) (Brooklyn, NY):** The Brooklyn Bridge Park Development Corporation (BBPDC) is responsible for the planning and construction of the Brooklyn Bridge Park – an approximate 85-acre park along 1.3-miles of Brooklyn waterfront. E2PM was contracted by the BBPDC through their construction manager, Skanska USA Building Inc., as their Inspecting Engineer to perform a pre-demolition condition assessment and monitor the existing cracks and vibrations during demolition activities.



E2PM installed 17 crack gauges (model number C-1940), placed on locations pre-determined during pre-demolition condition assessment, installed four seismographs (Thomas Instruments Model # VMS2000), performed weekly crack gauge measurements, and recorded results on standard crack gauge sheets. Digital caliper readings were also taken using outside length (end-to-end) of each crack gauge as part of quality control program. E2PM also recorded surface temperatures of the masonry structure adjacent to each crack gauge, using an Extech 42500 Infrared Thermometer to account for minor variances due to temperature.

### 8.3 CONSTRUCTION PERMITTING SERVICES

Both E2PM's field construction managers and office staff, have extensive experience filing for and receiving local, county, state, and federal permits. E2PM has long standing relationships with many of the local building/engineering departments and is familiar with the construction permitting processes (which often vary from town to town). This unique understanding enables our busy Clients to successfully deliver their network services without delay from permit deficiencies. Examples of common permits that are regularly obtained by E2PM for construction projects include:

- ❖ NJPDES Construction Activity Stormwater General Permit (5G3)
- ❖ Soil Erosion & Sediment Control
- ❖ Building and/or Zoning Permits
- ❖ Demolition Permits
- ❖ Discharge to Groundwater Permits
- ❖ Dewatering Permits

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E2PM has proven experience preparing, submitting and receiving construction dewatering and discharge to groundwater/surface water permits. E2PM also helps our clients in the design of dewatering excavations, treatment and discharge points to ensure compliance with the NJDEP Division of Water Quality regulations. Through our project experience, E2PM effectively identifies the proposed quantity and duration of dewatering, contaminants of concern, if any, and the receiving waters. E2PM's in house natural resource managers and GIS database are also utilized to identify sensitive receptors and resources that may also need to be incorporated into the permit.

E2PM's engineers calculate the quantity and rate of discharge and help to design the most practical Best Management Practice (BMP) point of discharge, utilizing the NJDEP Stormwater Management Rules and the Standards for Soil Erosion and Sediment Control in New Jersey. Identification of the key permit application information, as well as the effective communication with NJDEP Division of Water Quality case managers is essential to achieving a timely permit review and approval. E2PM also understands the importance and has the experience to execute water quality permitting during time sensitive construction projects.

## **Representative Projects:**

**Dewatering Design for Deep Foundations for the True Wheel Building for NJ Transit at their Hoboken Yards (Hoboken, NJ):** E2PM designed and sized the dewatering system (pumps and treatment system) for the deep excavation into contaminated groundwater at the NJ Transit Hoboken Yards. E2PM designed the discharge treatment for the groundwater and also obtained the temporary construction dewatering discharge permit (Less than 100,000 GPD). E2PM investigated a Treatment Works Approval (TWA) for discharges to the local POTW, however, treatment and surface discharge was selected as the final solution.

**Contaminated Groundwater Discharge Permit for a Contaminated Brownfield Site (Newark, NJ):** To facilitate the excavation of contaminated soil below the saturated zone, E2PM designed a system to treat the groundwater and re-inject the groundwater into the subsurface using infiltration trenches. A discharge permit to re-inject groundwater was obtained from NJDEP. E2PM designed the required treatment train for the reinjection.

**Contaminated Groundwater Discharge Permit for the Former Maxwell House Brownfield Site (Hoboken, NJ):** To facilitate the excavation of contaminated soil below the saturated zone, E2PM designed a system to treat the groundwater and re-inject the groundwater into the subsurface using infiltration trenches. A discharge permit to re-inject groundwater was obtained from NJDEP.



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## 8.4 CONSTRUCTION MONITORING SERVICES

The following describes several common construction monitoring services that E2PM provides for our Clients:

**Structural & Settlement Monitoring** - This type of monitoring can include tilt meters, strain gages, crack gages, and load cells. These are just a few tools that E2PM deploy on the job site. During settlement monitoring, E2PM measures ground movement caused by construction activities of a structure and documents the movement (or lack of movement) of a structure. This could include excavation, demo work, and much more. It is our job to monitor these buildings and structures in or near a construction area to keep buildings safe.

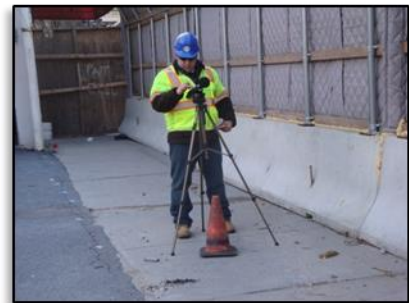


Horizontal and vertical monitoring can be done by either E2PM field crews at any required frequency or remotely using robotic instruments controlled via the internet. Remote monitoring employs a system of optical prisms and high precision survey instruments, maintained onsite and controlled from our office. Measurements are taken as frequently as necessary any time of the day and reports issued daily. Monitoring a structure lets our Clients control the frequency and therefore the cost of services.

**Vibration Monitoring** - E2PM employs a staff of trained engineers versed in the use of conventional onsite and remote sensory seismographs. We develop and implement a vibration monitoring plan to ensure the specific tolerance and thresholds of limits are not exceeded.

**Noise & Dust Monitoring** - E2PM has the experts to develop, implement, and monitor a network of real-time ambient air monitoring stations to screen for potential particulate matter released from construction activities.

As part of our air monitoring capabilities, E2PM provides on-site monitoring for airborne volatile and semi-volatile organic compounds during periods of excavation, storage, and loading of excavated materials onto transportation vehicles using photo-ionization detectors. Methodologies utilized include Transmission Electron Microscopy and Scanning Electron Microscopy. If necessary, site specific health and safety plans (HASPs) can be prepared to control dust, organic vapors and/or odors in accordance to OSHA Standards.



E2PM is also experienced in preparing noise monitoring plans, particularly in congested areas prone to high exposures. Onsite noise monitoring is done using field measurement and data collection. Results are compiled, analyzed, and compared with current standards. E2PM's trained noise monitors and engineers provide recommendations that include mitigation and/or maintenance measures.

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## Representative Projects:

**Columbia University (Manhattanville Campus, NY):** The Jerome L. Greene Service Center, a proposed 10-story, approximately 176,000sf building, is to be the first building of Columbia's Manhattanville Campus expansion project. E2PM was retained by NY Concrete to provide construction monitoring services.

The elements of the NY Concrete scope of work are: erecting and fabricating the steel reinforcing bars, mobilizing concrete pump trucks, redi-mix concrete truck delivery, pouring of the concrete slab, and finishing and curing the concrete slab. E2PM was hired to develop and implement the required dust and noise monitoring for the NY Concrete scope of work. E2PM also performed equipment certifications for this phase of the project.



**860 Washington Street (Manhattan, NY):** Located within the Gansevoort Market (a.k.a. Historic Meat Packing District), this construction site was designated by the NY City Landmark Preservation on September 9, 2003. E2PM was contracted by 437-51 West 13<sup>th</sup> St. LLC to inspect and monitor the existing structures adjacent to a commercial building proposed for demolition.

E2PM conducted pre & post construction assessment reports, installed eight seismographs (InstanTel Minimate Plus Advanced Vibration), and took bi-weekly crack gauge measurements. E2PM's monitored activities ensured that no movement of the historical structures was occurring during the construction/demolition activities.



**MMA FAA RTR Site (Morristown Airport, Morristown, NJ):** E2PM was retained to develop the project plans and provide construction management oversight services for the demolition of the Federal Aviation Administration (FAA) Remote Transmitter Receiver (RTR) Site at Morristown Municipal Airport.

The project scope of work included: demolition and encapsulating three painted steel towers for transport and recycling offsite, removing and disposing/recycling the contents of the equipment building, asbestos and lead based paint abatement, building demolition, building and tower concrete foundation excavation, excavating and removing conduit and cables, asphalt removal, post-excavation sampling for chemical analyses, backfilling, and final seeding and sodding activities.



In accordance with the contract documents, E2PM developed the Demolition and Restoration Plan, Asbestos Management Plan, Lead Management Plan, Waste Materials Management Plan (Hazardous and Non-Hazardous) and Field Sampling and Testing Plan.

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## 8.5 RESIDENT ENGINEERING SERVICES

E2PM has successfully fulfilled the role as resident engineer for a variety of construction projects that include: roads, bridges, rail, and transportation centers, sanitary sewers, water mains, waste water treatment facilities, parks and recreation, hazardous materials abatement, and waterfront development.

Our inspectors are certified by the National Institute for the Certification of Engineering Technologies (NICET), and NICET certified inspectors have demonstrated their experience and training by meeting the standards established for construction inspection. Our inspectors are also experienced in the use of Manual for Uniform Traffic Control Devices (MUTCD) to ensure that traffic control measures comply with applicable regulations. E2PM Field Inspectors also have certifications and training for field testing by the American Concrete Institute, OSHA Construction Safety Training, Traffic Safety Training, and Hazardous Waste.

Services provided by E2PM's Construction Support Services Division for construction inspection and supervision include:

- ❖ Daily construction inspection
- ❖ On site field testing of materials and equipment
- ❖ Field measurement and payment processing
- ❖ Shop Drawing Review
- ❖ Contract Administration
- ❖ Engineering/Technical Inspection
- ❖ Progress Reports
- ❖ Record Keeping
- ❖ In House Support by the Engineering Division
- ❖ Site Safety Inspection and Compliance Services
- ❖ Support of Excavation Services

## 8.6 CONSTRUCTION LAYOUT SURVEYING

E2PM is unique in that we have both qualified field crew and technical office support that are comprised of highly qualified personnel, all supervised and managed by licensed land surveyors. Our field crew consists of personnel who are members of the International Union of Operating Engineers & Land Surveyors, in-house office technical staff consists of CADD drafters, survey technicians, and office surveyors. E2PM has two (2) licensed land surveyors on staff.

E2PM has been successful in delivering a diversified array of land surveying services that include: Topographic Surveys, Utility Surveys, ROW Surveys, Settlement Surveys, Final As-Built Surveys, Boundary Surveys, and Construction Layout. E2PM's construction surveying personnel can also provide Digital Terrain Models, Horizontal & Vertical Control Reports, Engineering Base Mapping, and historic building Monitoring and Reports.



## Representative Projects:

**PNCT Expansion (Port of Newark, NJ):** The Port Newark Container Terminal (PNCT) located in Newark, NJ occupies 259-acres, handling over 600,000 containers annually. E2PM scope of work was to perform construction surveying during various parts of an expansion project.

E2PM provided construction stakeout during the installation of the new transfer pads, pavement areas to stage the containers, and the new LDSS Strad building. E2PM also performed Soil Surcharge Volumes, Elevation Monitoring, and Construction Stakeout.

