

FREEMAN

C O M P A N I E S

LAND DEVELOPMENT | ENGINEERING DESIGN | ENVIRONMENTAL SERVICES



On the occasion of the firm's fifth anniversary in 2014, Freeman Companies, LLC moved to a new, permanent office location in the South Green neighborhood of Hartford – at 36 John Street. 36 John Street was designed by renowned Hartford architects Whiton & McMahon in 1920. Beginning its useful life as the Fire Department's original Equipment Maintenance Shop, the facility served the HFD until its obsolescence in the 1980s when it was shuttered.

In 1989, 36 John Street – and its neighbor Engine Company 1 at 197 Main Street – were both placed on the National Register of Historic Places “for their high levels of integrity of design, materials, setting and associated historic context with the Hartford Fire Department”. Prior to Freeman's relocation, the building served for over a decade as the studio and residence of Linda Cheverton Wick and Walter Wick, creators of the popular iSpy “Can You See What I See?” book series.

Freeman Companies' alterations to the historic building have a light touch, retaining the unique architectural characteristics of the distinguished Neo-Classical, stone-trimmed brick façade and spacious, open-plan interior. Building area totals 12,168 square feet and accommodates sixty employees.



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Amidst the economic turmoil of one of the worst recessions ever experienced by the building industry – and shortly after his successful summit of Mount Everest – Rohan A. Freeman, PE, LS founded Freeman Companies, LLC in 2009. In the years since, this multi-disciplinary, Hartford-based land development, engineering design and construction services firm has thrived.

Freeman Companies' specializes in **land surveying, civil engineering, hydraulic/hydrologic engineering, geotechnical engineering, landscape architecture, environmental sciences, hazardous materials investigation, transportation and traffic/safety engineering, bridge/structure engineering and inspection, utilities engineering, construction engineering and inspection, contractor support services, and owner's representation** for projects in the governmental, educational, commercial, industrial, institutional and infrastructure markets. The firm is a certified **Disadvantaged Business Enterprise (DBE), Minority Business Enterprise (MBE), Small Business Enterprise (SBE) and SAM-Active, Federal US SBA 8(a)** professional consulting enterprise. Freeman Companies is a growing, Black American owned small business, driven by our promise to clients and owners to **Elevate Your Expectations**. This promise has led the company to retain nearly all of their clients through repeat business and to grow a robust roster of new clientele. An innovative "integrated design approach" offers multiple complementary and coordinated land development services through a single provider, enabling sustainable, high quality land development in the most cost-effective and time-responsive manner possible. This approach has resulted in the firm's steady growth in new revenue, markets, employees, and professional services over the past ten years of practice.

It has also enabled the firm to advance its social responsibility goals, including support of several community-based educational and human-service organizations and the establishment of the firm-endowed "Freeman Companies BRIDGE Endowed Engineering Scholarship" through the University of Connecticut Foundation. Rohan Freeman, President and UCONN Alumnus says "Establishing this scholarship for deserving minority students from the cities of Hartford, Bridgeport, New Haven or Waterbury who have overcome socioeconomic and educational obstacles is a way of 'paying it forward' and sharing our success in communities that have always supported us. We look forward to help shaping Connecticut's next generations of engineers for many years to come."

Freeman Companies' Public Agency On-Call Experience includes:

- Connecticut Department of Administrative Services / Division of Construction Services – (1) MBE Civil Engineer
- Connecticut Department of Transportation – (5) Pre-Qualified in Highway Design; Construction Engineering & Inspection (Road and Bridge); Bridge and Structure Design; Bridge and Structure Inspection; and Traffic and Safety Engineering
- Connecticut Housing Finance Authority – (2) Environmental Services and Landscape Architecture/Site Planning
- University of Connecticut – (4) Civil and Structural Engineering; Surveying; Geo-Technical Engineering; Landscape Architecture
- City of Bridgeport – Environmental Engineering
- City of Bridgeport Housing Authority/Park City Communities – (2) Engineering and Environmental Services
- Town of Greenwich – Bridge Inspection Services
- City of Hartford – (5) Engineering; Environmental; Owner's Representation; Landscape Architecture, Land Use Planning
- Metropolitan District Commission – (2) Engineering for Water Distribution and Wastewater Collection, and General Facilities/Surveying
- City of New Haven Housing Authority/Elm City Communities – Environmental Services
- New Haven Water Pollution Control Authority – (3) Geotechnical, Environmental-Remediation-Permitting, and Land Survey
- City of Stamford – Land Use Planning/Consulting
- Town of Trumbull – Geotechnical Engineering
- City of Waterbury – Master Planning and Site Development

**STATE OF CONNECTICUT
DEPARTMENT OF CONSUMER PROTECTION**

This is your certificate of registration for your records. Such certificate shall be shown to any properly interested person on request. Do not attempt to make any changes or alter this certificate in any way.

In an effort to be more efficient and Go Green, the department asks that you keep your email information with our office current. All renewal notifications and certificates will only be emailed to your last reported email on record.

Questions regarding this certificate of registration can be emailed to the Occupational & Professional Licensing Division at dcp.occupationalprofessional@ct.gov.

Mailing address:

**FREEMAN COMPANIES LLC
36 JOHN ST
HARTFORD, CT 06106-1822**

Email on file to be used for receiving all notices from this office:

lfredette@freemancos.com

STATE OF CONNECTICUT ♦ DEPARTMENT OF CONSUMER PROTECTION			
Be it known that			
FREEMAN COMPANIES LLC			
36 JOHN ST HARTFORD, CT 06106-1822			
has been certified by the Department of Consumer Protection as a registered			
JOINT PRACTICE			
Architecture: No	Landscape Architecture: Yes	Land Surveying: Yes	Professional Engineering: Yes
Registration #: JPC.0000109 Effective Date: 05/01/2019 Expiration Date: 04/30/2020		 Michelle Seagull, Commissioner	
verify online at www.elicense.ct.gov			

Who We Are

Rohan A. Freeman, PE, LS, President



Rohan A. Freeman, PE, LS is Founder and President of Freeman Companies, LLC, an award-winning, multi-disciplinary site development, engineering design, and construction services enterprise. Mr. Freeman, an accomplished mountaineer, founded the company in 2009 shortly after summiting Mount Everest with a promise to clients to “Elevate Your Expectations”. This promise and Mr. Freeman’s career-long inquiry of economic development and urban design have led to the firm’s involvement in several large-scale, transformative public projects. Mr. Freeman, who grew up in Jamaica, is the first African-American to climb the Seven Summits. Mr. Freeman is a popular motivational speaker, and member of the American Society of Civil Engineers, U.S. Green Building Council, Construction Institute, Greater New England Minority Supplier Diversity Council and board member of the New Children’s Museum, CT Landmarks, the University of St.

Joseph, and the Connecticut Business & Industry Association. For the national organization Outward Bound, Mr. Freeman currently serves as Vice-Chair. In 2014 he established the University of Connecticut School of Engineering “Freeman Companies BRIDGE Endowed Engineering Scholarship” to support minority students with an interest in civil engineering who have overcome obstacles such as socioeconomic or educational disadvantage. He is included among a select group of alumni to be inducted into the UCONN School of Engineering’s Academy of Distinguished Engineers. In 2018, Mr. Freeman was recognized by the Hartford Business Journal as Small Firm “CEO of the Year”.

Paul A. Rodrigues, PE, Manager of Civil Engineering / Director of Operations



Paul Rodrigues is a highly skilled and popular Project Manager with 16 years of civil engineering experience in jurisdictions throughout New England. Mr. Rodrigues’ experience includes hydraulic analyses for site development studies, roadway and parking lot storm drainage networks, the analysis and design of retention basins for stormwater management, and compliance to ADA codes for accessibility. Throughout his career, he has gained a worthy reputation as a reliable and responsible problem-solver for owners and peer collaborators alike. Mr. Rodrigues’ work as a Project Manager at Freeman Companies focuses largely on public projects, including several Connecticut public school and university buildings, campuses and athletic fields/facilities. Early in his professional career, he was employed as an engineer with the Highway Division of the Connecticut

Department of Transportation. Prior to joining Freeman Companies, LLC he was a Project Engineer at Purcell Associates (now Alfred Benesch & Company).

Yuyang Lin, PE, PTOE, Manager, Transportation and Traffic-Safety Engineering



Mr. Lin offers more than 18 years of engineering and inspection experience in municipal and Department of Transportation projects, most recently with BL Companies. He has a thorough understanding of the design guidelines and expertise in design procedures, and is proficient in state-of-the-art traffic application and computer aided design software. His work includes traffic signal design, traffic impact studies, highway/roadway design, signing and pavement marking plans, construction inspection, hydraulic, hydrologic and stage construction plans to maintain traffic during construction under jurisdictional requirements. Mr. Lin is a UCONN graduate having earned a Master of Science in Civil Engineering and he has also earned the designation PTOE (Professional Traffic Operations Engineer) from the Transportation Professional Certification Board Inc. He is a member of the Institute of Traffic Engineers (ITE).

Heidi Berg Hajna, PLA, ASLA, Director, Landscape Architecture Studio



Ms. Hajna is an award-winning Professional Landscape Architect and active member of the American Society of Landscape Architects. She joined Freeman Companies to lead the firm's planning and landscape architecture division. Ms. Hajna offers 33 years of professional experience in Connecticut and has been associated with the Kasper Group of Bridgeport; Richter, Cegan & Webb of Avon; The S/L/A/M Collaborative of Glastonbury; and, most recently, was a Project Manager and Senior Landscape Architect at planning firm TPA Design Group of New Haven. Heidi's experience involves large scale master planning for public improvements, small private site development plans, economic development, streetscape/public spaces, education, historic properties, parks/recreation/trails, public housing and private residential. Her Project Management responsibilities have involved leading teams of design professionals to

meet project deadlines by effectively delegating and prioritizing project workload from initial analysis and design through construction; maintaining daily client contact, interfacing with various state and local agencies and also presentation of projects at public hearings and stakeholder informational meetings. Additional responsibilities have included detailed existing conditions analyses, master planning, alternative land use concepts, preliminary design concepts, final design plans technical analysis and design, specifications, and cost estimates. She is a graduate of the State University of New York's College of Environmental Science and Forestry in Syracuse.

Robert A. Cooke, LS, Senior Survey Party Chief



Robert A. Cooke, LS offers nearly 40 years of experience in land surveying and is licensed in Connecticut as a Professional Land Surveyor. His areas of expertise include survey and street monumentation, topographic mapping, including aerial control and field topography, boundary surveying, deed research, computations for boundary maps, and construction stake-out surveys. Multiple-assignment and on call clients have included the Connecticut Department of Transportation, Connecticut Department of Administrative Services/Construction Services, the Metropolitan District Commission, City of Hartford, municipalities throughout Connecticut, peer engineers, architects and construction managers. Mr. Cooke is proficient in all phases of field and office survey work as well as with survey instrumentation, G.P.S equipment, robotic totalstation, data collectors, and with Civil 3D software.

Nathan L. Whetten, PE, D.GE, CG, Vice President of Geotechnical Services



Nathan Whetten joined Freeman Companies to lead their expanding Geotechnical Division. Mr. Whetten has more than 30 years of experience working on a wide variety of geotechnical engineering projects. His experience includes geotechnical and bedrock geological evaluations for bridge and highway projects, earth and rock slopes, parking structures, dams, buildings, and water/wastewater treatment facilities and utility pipelines. His project responsibilities include project management, development and oversight of subsurface exploration programs, evaluation of geotechnical design criteria, report preparation, and construction observation. Prior to joining Freeman Companies, Nate held the position of Senior Associate at GEI Consultants, a worldwide science and engineering firm. Mr. Whetten holds several degrees from Cornell University including B.A. in Geology, B.S. in Civil Engineering and M.E. in

Geotechnical Engineering. He has been the senior geotechnical engineer and project manager on several dozen large scale civil and commercial construction projects since the 1980s. Nate is considered a leading geotechnical authority by peers and has published over 15 professionally acclaimed articles, white papers and case studies for multiple Science and Engineering trade publications. He has also won numerous awards for completed projects including the coveted Harl Aldrich Excellence Award.

Richard A. Standish, PG, LSP, LEP, Manager, Environmental Sciences



Mr. Standish is a Professional Geologist, Licensed Site Professional (LSP) in Massachusetts and Licensed Environmental Professional (LEP) with over 38 years of experience in environmental program management of large, complex sites and has extensive experience in remedial investigation/feasibility study programs, hazardous waste site investigations, and compliance auditing. He has been program manager on multi-site and international due diligence investigations. His technical expertise is in program management, probabilistic cost estimations, geological/geophysical studies, and environmental compliance auditing. As an LEP, Mr. Standish has personally closed out over 20 sites under the Connecticut Property Transfer Act and Voluntary Remediation Programs.

Matthew J. Chalifour, Hazardous Building Materials Specialist



Matthew Chalifour joined Freeman Companies to lead their Hazardous Building Materials division. Mr. Chalifour has over ten years of experience working on a wide variety of environmental remediation and hazardous materials abatement projects. His experience includes asbestos abatement monitoring, inspections and project design, lead abatement monitoring and inspections, mold / fungal sampling and evaluation, radon gas sampling and evaluation, sampling and monitoring of abatement of polychlorinated biphenyls (PCB), mercury, volatile organic compounds (VOC) and sampling for a host of many other hazardous materials. Mr. Chalifour also has extensive asbestos abatement supervisory experience. His project responsibilities include project management, development and oversight of hazardous materials inspections and abatement projects, evaluation of design criteria and pertinent report preparation. Prior to joining Freeman Companies, Matthew

held the position of Industrial Hygienist at Hartford Hospital. Mr. Chalifour holds a B.S. degree from Keene State College of New Hampshire in Occupational Health and Safety. He has been the main inspector, monitor and designing partner for several large-scale hazardous materials abatement projects since 2012.

Jeffrey N. LeBeau, Jr., PE, Senior Civil Engineer



Jeffrey N. LeBeau, Jr. offers 24 years of expertise in engineering and inspection is well versed in residential, commercial and industrial design and permitting. Jeffrey earned his Bachelor of Science degree in Civil Engineering from Worcester Polytechnic Institute and is a licensed Professional Engineer in Connecticut and Massachusetts, as well as a Massachusetts DEP Certified Soil Scientist. His project experience encompasses the transportation, residential, commercial, industrial, environmental and government sectors. He most recently served as a Senior Civil Engineer for GM2 Associates, and has also worked independently as a civil engineering consultant. Mr. LeBeau has extensive experience with field observations and monitoring of construction projects, from small sites to large multiple acre sites that included full-time observation. Construction observation has been a large part of Mr. LeBeau's experience over the years and he has become proficient at handling field

changes from both a practical and permitting standpoint. Mr. LeBeau's construction observation experience includes: surveying, photo documentation, preparing daily observation logs, meeting minutes, weekly reports, conducting weekly meetings, shop drawing review, processing payment requisitions and change orders, interpreting the intent of construction plans and specifications as well as preparation of As-Built Plans. Mr. LeBeau also has permitted many projects in Connecticut with local Inland Wetlands Agencies and CT DEEP for wetland and water resource related projects. Mr. LeBeau has experience preparing sediment and erosion control plans in both Massachusetts and Connecticut for a variety of projects utilizing and incorporating the respective state manuals on sedimentation and erosion control.

Dennis M. Qunit, PE, NBIS, Manager, Bridge and Structure Engineering



Dennis M. Qunit, PE, NBIS has over twenty-five years of extensive experience in project management, structural engineering, and construction engineering, administration, and inspection involving a variety of public infrastructures from single to multi-span concrete and steel roadway bridges, retaining walls, prestressed and post-tensioned concrete structures, as well as utility and pedestrian bridges. He is experienced in performing structural analysis, structure type studies and project due diligence, design and detailing, condition assessment and bridge inspection, bridge evaluation and load rating, development of contract plans, specifications and estimates, construction support services and construction engineering. Responsibilities include project management and coordination, preparation of work scopes and fee proposals, preparation of project deliverables, client interaction and client relations, business development and assisted in project pursuits. Mr. Qunit has also served in a variety of projects as a project manager and as a team leader on bridge inspection assignments. He has taken FHWA-NHI Safety Inspection of In-Service Bridge, FHWA-NHI Bridge Inspection Refresher Training, and Confined Space Entry Training Courses, qualifying him as an NBIS-qualified Team Leader. As a Team Leader, Mr. Qunit has performed bridge inspection and condition assessment of various types and sizes of bridges, including simple to complex bridges. He has also performed load rating analyses and structural evaluation of bridges. As Principal Bridge Engineer, he has provided technical guidance for the inspection and condition assessment of bridges and performed quality control and quality assurance reviews of inspection reports and load rating analysis reports.

Allison M. McCauliffe, PE, Senior Geotechnical Engineer



Allison McCauliffe has nearly 20 years of experience in the geotechnical engineering field working on a wide variety of projects in both the public and private sectors. Her projects have ranged from buildings and pump stations to dam improvements and slope stabilization. Her experience includes project management and analysis from the subsurface explorations to construction observation. Specifically she has extensive experience in designing, coordinating and observing subsurface exploration and laboratory testing programs, geotechnical engineering analysis for shallow and deep foundation systems, ground improvement, slope stabilization, and seepage analyses. Ms. McCauliffe's responsibilities include project management, geotechnical evaluation and analyses, report preparation, contract document preparation, and construction management and observation. Prior to joining Freeman Companies, Allison held the position of Project Engineer at Tighe & Bond, Inc., a

multidiscipline engineering firm. Ms. McCauliffe holds both a Master of Engineering in Geo-Environmental Engineering and a Bachelor of Science in Civil Engineering from Rensselaer Polytechnic Institute and is a licensed Professional Engineer in both Connecticut and Massachusetts.

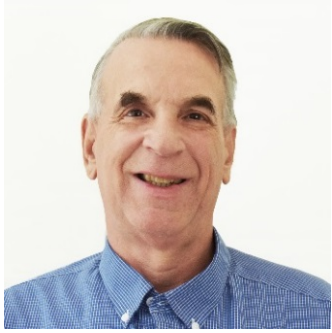
Lennox Keen, Survey Manager and Senior Party Chief



Lennox A. Keen has almost 20 years of experience in land surveying. He has strong technical skills that apply to a wide variety of projects, his expertise lying in property and construction surveys. In many ways, Lennox is Freeman Companies' "MVP" – an outstanding survey manager, survey party chief in addition to being a well-respected construction inspector. He offers clients the versatility, intelligence and depth of his nearly two decades of field inspection experience. Lennox possesses considerable knowledge of construction materials and methods; maintenance of field and office records; performance of complex quantity and engineering computations; reading and interpretation of plans and specifications; and effective communications skills with owners, clients and the public. He understands the land survey process from every perspective, having climbed the ladder in our Land Survey department since 2010. He has previously served as a Land Surveyor for GM2 Associates, Inc. and

BSC Group, Inc.

Daniel Paquette, Senior PM and Cost Estimator, 7 Summits Construction



Mr. Paquette brings 35 years of construction management, project management, cost estimating and on-Time, under-budget experience to 7 Summits Construction, "sister" company of Freeman Companies. Over his career he has personally managed the successful completion and delivery of multiple projects totaling millions of dollars in construction project costs, from modestly sized fit-outs to ambitious renovations of historic structures. Among his clients are the University of Connecticut, Naugatuck Valley Community College, Travelers in both Hartford and Windsor, Hartford Hospital, Baystate Medical Center, Bristol Hospital, Norwalk Hospital, Otis Elevator, Pratt & Whitney, Bechtel/Sprint, the City of Hartford, and the Metropolitan District Commission. Recent work has involved construction cost estimating for the New Boys & Girls Club of South Hartford, the \$ 86.5 million Renovation-as-New of the Martin Luther King Jr. High School Campus, and the new mixed-use urban developments "Park & Main", "Albany & Woodland Place" and "Cromwell River Road" currently under development by 7 Summits Realty. Dan has assisted the Town of Cromwell as Owner's Representative for the Expansion of the Belden Public Library and is currently serving the Town

for the the Design-Build delivery of the new Public Works Facility. Mr. Paquette's previous employment has included Downes Construction, Standard Builders and Turner Construction. Mr. Paquette is a graduate of Northeastern University with a Bachelor of Science in Civil Engineering.

Katherine Montgomery, Staff Landscape Designer



Ms. Montgomery joined Freeman Companies' Landscape Architecture Studio in 2017. She received her Bachelors of Landscape Architecture in May of 2017 from SUNY College of Environmental Science and Forestry (ESF), magna cum laude. She received many scholarships while attending SUNY ESF, including the Nan Door Memorial & Syracuse Garden Club Scholarship (2016) and the Bob Case Scholarship Award from NYS Nursery and Landscape Association (2016). In 2016, Ms. Montgomery traveled across Berlin, Germany from August to November to participate in an independent off-campus semester and BLA Thesis titled "Nature Networks: Integrated Green Spaces Across Berlin, Germany" where she created a book dedicated to maps, diagrams, section profiles and photographs of various green spaces on Berlin's multi-use trails. Also during her time at SUNY ESF, Ms. Montgomery served as a Horticultural Intern at the Poly Hill Arboretum in West Tisbury, Massachusetts, where she worked

directly under the Arborists, Horticulturalists, and Plan Propagators to expand her knowledge of public garden operations. She is skilled in AutoCAD and uses AutoCAD, Excel, and Adobe Acrobat Suite to complete renderings and project construction documents for Freeman Companies.

Michael Kwok, PE, Staff Engineer



Mr. Michael Kwok is a graduate of Central Connecticut State University where he received his Bachelor of Science in Civil Engineering and also minored in math. Mr. Kwok has several computer skills including AutoCAD Civil 3D, MATLAB, and Win TR-55. He has also taken courses in Engineering Survey, Hydraulic Engineering, Soil Mechanics, Timber Structures, Environmental Engineering, Hydrology & Storm Drainage, Structural Analysis, Transportation Engineering, GPS Mapping, Reinforced Concrete Structures and Structural Steel Design. Mike earned his Professional Engineer's license in May of 2019.

Pruthvi "Raj" Takkuri, Staff Engineer



Mr. Takkuri joins Freeman Companies as a Staff Civil Engineer with over five years of professional experience in Transportation Engineering and Project Management. He specializes in assesing project needs while adhering to cost-effective quality control standards and has etensive experience working collaboratively on a wide range of projects. Mr. Takkuri is skilled in AutoCAD Civil 3D, Primavera, HCS, VISSIM, MicroStation, and Engineering Product Data Management Software (EPDM). He has diverse experience in Land Survey, quality control in accordance with CSIs/procedures method statements, traffic data collection and analysis, and soil sampling and testing.

Professional Services Offered:

Land Surveying

- UAV (Unmanned Aerial Vehicle) Land Surveying
- Drone Mapping
- Acquisition Surveys
- ALTA/ACSM Land Title Surveys
- Bathymetric and Hydrographic Survey
- Boundary Determination
- Cadastral Surveying
- Cartographic Mapping
- Construction Surveying
- Data Acquisition & Processing
- Data Conversion
- Deformation Monitoring Surveys
- Digital Terrain Modeling (DTM)
- Expert Witness Services
- Field Engineering
- Geodetic Control
- Global Navigation Satellite Surveying (GNSS/GPS)
- Land Records Research
- Legal Descriptions
- Location Improvement "As-Built" Record Surveys
- Mapping
- Parcel Land Base Development
- Photogrammetric Control Surveys
- Pre-Construction Clearance
- Right-of-Way Mapping/Engineering
- Spatial Analysis
- Subdivision Mapping
- Surveying
- Topographic Surveying/Mapping
- Utility and Infrastructure Surveys
- 3D Laser Scanning
- 3D Web Design / GIS
- Aerial and Mobile LiDAR
- Aerial Photogrammetry / Topography
- CCTV Pipeline Inspection
- Geographic Information Systems (GIS)
- Subsurface Utility Investigation
- Utility, Buried Obstruction and Concrete Reinforcement Location

Civil Engineering

- Land Use Planning and Permitting
- Due Diligence & Feasibility Studies
- Permitting
- Site Engineering
- Municipal Engineering
- Roadway Design
- Drainage Design
- Stormwater Management Design
- Stormwater Compliance Monitoring
- Hydrologic / Hydraulic Analysis
- Water / Wastewater Engineering
- Construction Estimating

- Construction Permitting
- Soil and Erosion Control

Landscape Architecture

- Placemaking
- Green Infrastructure
- Streetscapes
- Site Planning and Landscape Design
- Campus /Facilities Master Planning
- Site Development Feasibility Studies
- Sustainable Design
- Roof Deck Design / Green Roof Design
- Historic Landscapes
- Athletic and Recreational Facilities Design
- Singly and Multifamily Residential Design
- Greenways and Trails
- Urban Design
- Brownfields
- Bioremediation
- Healing Gardens
- Landscape Maintenance Specifications and Guidelines

Traffic Engineering

- Traffic Signal Analyses and Design
- Traffic Impact Feasibility Studies
- State and Local Permitting
- Traffic Calming
- Parking and Traffic Circulation
- Site Access
- Bike & Pedestrian accommodation
- Safety Improvement
- Traffic Simulation
- Maintenance and Protection of Traffic
- Pavement Marking and Signing

Transportation and Planning

- Funding Application
- Roadway Design
- Hydrologic and Hydraulic Analyses and Design
- State and Local Permitting
- Complete Street
- Context-Sensitive Design
- Streetscape
- Environmental Permitting
- Value Engineering
- Bid Analysis
- Cost estimate
- Public Outreach
- Construction Inspection
- Utility Coordination

Geotechnical Engineering

- Evaluation of Site Conditions
- Evaluation of Subsurface Soil, Rock and Groundwater Conditions
- Site Feasibility for Construction
- Foundation Support Evaluation (Shallow or Deep Foundation Systems)
- Slope Stability
- Ground Improvement

- Evaluation and Design of Retaining Wall Systems
- Support of Excavation
- Pavement and Sub-Grade Structures
- Waterfront Bulkheads and Piers
- Cofferdams
- Underpinning
- Support and Protection of Utilities
- Pile Driving Analysis
- Trenchless Technology Evaluation
- Forensic Engineering and Litigation Support
- Seismic and Vibration Engineering and Monitoring
- Geotechnical and Structural Monitoring
- Vibration and Noise Monitoring
- Manual and Automated Survey Monitoring
- Manual and Automated Monitoring Data Collection
- Blasting Design Support
- Pre- and Post-Construction Condition Surveys
- Failure Investigation
- Expert Witness Support
- Construction Claim Support

Bridge & Structural Engineering

- Bridge Design & Engineering
- Bridge Falsework Engineering
- Bridge Structural Rehabilitation
- Bridge Inspection & Rating
- Forensic Engineering
- Structural Design of Culverts and Retaining Walls
- Girder/Superstructure Erection Design
- Threshold Peer Reviews
- Structural Renovations
- Special Inspections
- Due Diligence Reports
- Condition Assessment and Structural Evaluation
- Wind Analysis
- Snow Load Analysis
- Seismic Analysis and Retrofit
- Building Envelope Studies
- Concrete and Masonry Repair and Rehabilitation
- Foundations
- Design of Contractor's Alternative Water Handling System
- Temporary Bridge Design
- Temporary Cofferdam and Dewatering Systems
- Temporary By-Pass Pipes Design
- Temporary Earthwork and Excavation Supports: Sheet Piling, Soldier Pile and Lagging, Soil Nailing, Tieback Systems
- Temporary Roadway Decking and Steel Plating
- Temporary Shoring Design
- Value Engineering
- Water Handling/Water Diversion Systems Design
- Utility Relocations
- Demolition Design and Engineering
- Construction Phase Consultation and Engineering

Utilities Engineering

- Gas Main and Service Line Assignment
- Utility Design Development
- As-Built Mapping
- Vacuum Excavation for Utility Locates

- Utility Relocation Coordination

Environmental Sciences

- Land Use Planning Permitting
- Environmental Site Assessments
- Environmental Transaction Screens
- Quantification of Environmental Liabilities
- Environmental Risk Allocation
- Regulatory Compliance and Permitting
- Technical Support for Environmental Litigation
- Brownfield Redevelopment
- Soil Characterization and Management Services
- Remedial Design
- Hazardous and Solid Waste Management
- Vapor Intrusion Assessments
- Excavated Soil & Material Management Plan (ESMMP)
- Boring, Sampling & Analysis for Development of ESMMP (Waste Pre-Characterization)
- In-Situ Sampling & Analysis
- Stockpile Sampling & Analysis
- PCB Soil Management Plan Requiring EPA Approval
- PCB Decontamination Plan
- Transportation and Disposal of Polluted Soil
- Transportation and Disposal of Contaminated rock
- PCB Remediation Contractor
- Soil Staging General Permit
- Site Specific Health & Safety Plan
- On-Site Qualified Environmental Professional (QEP) and QEP Representative
- QEP Oversight Services

Hazardous Materials Services

- Asbestos Inspections / Abatement Monitoring
- Lead Inspections / Abatement Monitoring
- Lead Risk Assessments
- PCB, VOC and Metals Testing and Evaluation
- Airborne Radon Sampling and Evaluation
- Abatement Project Design
- Mold Inspection and Evaluation
- Indoor Air Quality Assessments

Construction Engineering and Inspection

- Bidding Assistance
- Daily/Weekly Inspection
- Resource Coordination
- Materials Testing
- Administrative Services
- Community Relations
- Record Keeping, Log Books and Digital Photography
- Auditing and Budget Oversight
- Scheduling and Schedule Maintenance
- OSHA Compliance and Safety Review
- Regulatory Compliance
- Labor (DBE/MBE Participation), Wage Certification, and Other Human Resource Compliance
- Contractor Reference Checks
- Final Punchlist and Close Out
- State & Federal Funding

Relevant Experience

Portfolio

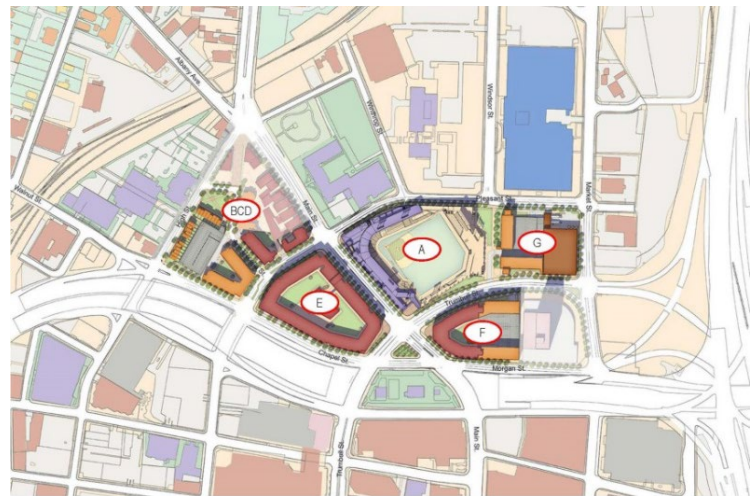
City of Hartford Development Services: AA Baseball Stadium and “Downtown North” Mixed-Use Development Hartford, Connecticut

Freeman Companies, LLC has played a key role in helping the City of Hartford in its initiative to develop a minor league baseball stadium and to advance the Downtown North Neighborhood with a comprehensive proposal for mixed-use development.

“DoNo” is a neighborhood revitalization strategy enabled by \$ 350 million residential-retail-sports entertainment mixed-use development in downtown Hartford. Master Planned components include a 6,000-seat AA Baseball Stadium, now Dunkin Donuts Park (designed to also accommodate multi-purpose uses such as outdoor concerts); 823 Housing Units and 19 Townhomes (across 4 development parcels); a Supermarket, Fitness Center and other Retail; a Brew Pub; and Parking.

Integration of the development into the existing North End and Downtown Hartford neighborhoods required design sensitivity to mitigate the impact of the work on local traffic, pedestrian accessibility, stormwater management, utilities, energy conservation, and quality of life. Freeman Companies is responsible for integrated site development, engineering and roadway design and construction services for the project, as well as for project coordination between the City, the Developer, and two multi-disciplinary design teams.

Site Civil Engineering and Roadway Design involved: Site Demolition Plan, Site Rendering, Site Layout Plan, Grading and Drainage Plan, Site Hydrology, Site Utility Plan, Site Sedimentation and Erosion Control Plans, Site Details and Notes, Project Engineering Report, LEED Certification, Plans and Profiles, Intersection Layout Plan, Site Construction Plans, Off-Site Construction Improvement/Mitigation Plans, Technical Specifications, Utility Coordination, and complete Streetscape/Landscape Design, as well as Quality Control Reviews. The stadium was completed and opened to the public in April 2017 and construction of additional mixed-use designs has become the responsibility of the City’s current developer, RMS Realty, with whom Freeman Companies is currently collaborating.



VIEW OF B1 TOWNHOMES AND PARK FROM ANN UCCELLO STREET



Owner/Client: City of Hartford Department of Development Services, DoNo Hartford, LLC (Formerly) and RMS Realty (Currently)

Services: Preconstruction Management, Master Planning, Land Surveying Landscape Architecture, Utility Investigation, Civil Engineering and Roadway Design, Permitting, Hazardous Building Material Services, Geotechnical Engineering, Construction Survey and other Construction Phase services.

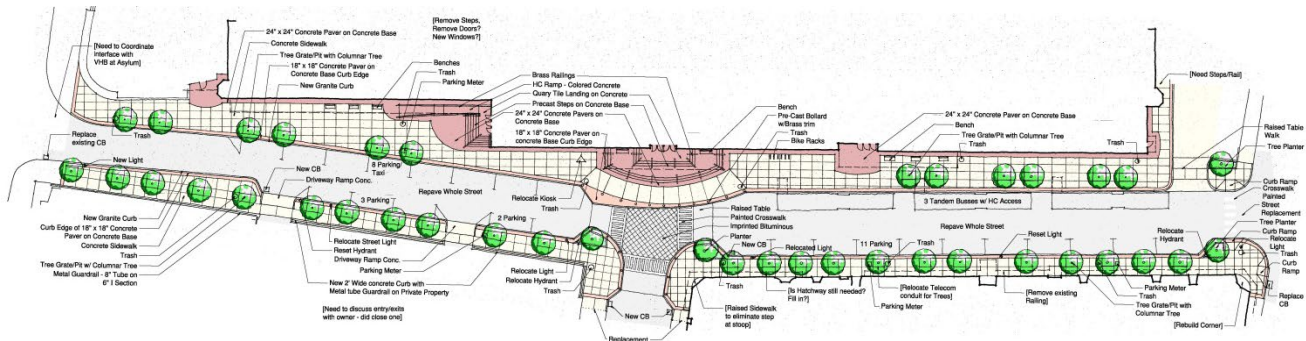
Years Services Provided: 2014-2016-DoNo Hartford; 2018-Present-RMS Realty Project

Prime or Sub: Prime

1212 & 1214 Main Street and 271-273 & 150 Windsor Street (Utility Investigation)

Freeman Companies, LLC provided Civil Engineering services for the “due diligence” investigation of existing utilities to service the stadium development site, for the City of Hartford’s Department of Development Services. Work involved site observations, and research from land records, previous surveys, GIS mapping and assessors mapping. A utility investigation for existing telephone (AT&T), water and storm/sewer (MDC), electric (NU) and gas (CNG) utilities was conducted and a “Class D” Compilation Plan prepared. Additionally, the floodplain was identified within Flood Zone “X”. The final report included mapping for location, utility, sanitary sewer, water distribution system and FEMA. Land Surveying: Freeman Companies, LLC provided Land Surveying services for the proposed baseball stadium development site, for the City of Hartford’s Department of Development Services. Parcel surveys, including boundary survey research, boundary survey, topographic survey and roadway survey, including topographic survey, are being prepared for each of the parcels in downtown Hartford.

FTA TIGER IV GRANT: City of Hartford and the Greater Hartford Transit District The iQuilt Project – Hartford Intermodal Triangle Reconstruction of Union Place (Roadway and Streetscape Design) Hartford, Connecticut



Union Place, Bushnell Park North, and State House Square comprise the three major TIGER-funded roadway projects called the “Hartford Intermodal Triangle”: a comprehensive urban vision for a progressive, and economically vital, city center in Hartford. Freeman Companies has been involved in each of these roadway projects in varying capacities: the firm provided land surveying, civil engineering and geotechnical engineering services to the Prime Engineer for the development of Bushnell Park North; full site and roadway design for the Reconstruction of Union Place (on which the firm also performed Construction Engineering & Inspection services for the City); as well as Construction Inspection services for the City for the completion of State House Square construction. For the overall Intermodal Triangle Initiative, Freeman Companies also acted as “Survey Project Coordinator” for the City with the responsibility of establishing the survey control for the entire, downtown Hartford project area. Construction Cost: \$ 24 Million (3-Project Initiative); All projects were FTA, STP-Urban Livability Grant funded and administered by the Greater Hartford Transit District as well as the City of Hartford. These projects were on an extremely tight schedule – in compliance with FTA requirements – and were completed in 2015-2016. Former Mayor Segarra has remarked “Through transit hubs and corridors, the Hartford Intermodal Triangle will strengthen the Capital Region’s economic and employment core by improving pedestrian and vehicular connections within the Unions Station-to-Main Street triangle.”

Union Place, adjacent to Hartford Union Station - Regional Intermodal Hub: Hartford TIGER project funds were used to enhance the street along Union Place, adjacent to the station, including extended curb space, better crosswalks, enhanced signal timing (intersection of Union Place and Asylum Street), new shelters, lighting, bike storage, signage, maps, and schedules integrate with downtown’s iQuilt pedestrian network and way finding program. Roadway design work included preparing layout plans, profiles, drainage plan, utility plan, and cross sections for Union Place. The roadway’s horizontal and vertical alignment was established to best fit within the existing roadway footprint and not impact the existing buildings surrounding the roadway. Intersection grading plans and roadway details were also provided within the construction documents. New layover space is provided for local buses from the eastern arm of the route network, reducing congestion on Main Street and facilitating transfers and frequent Star Shuttle service within the downtown area. Public art at the overpass at Asylum Street gives the station greater visibility. Amenities on the east side of Union Station facilitate arrival and departure of passengers by improving passenger flow and streamlining intermodal connections.



Freeman Companies’ engineers were responsible for roadway geometry design and layout consistent with the Greater Hartford Transit District and City of Hartford’s input, roadway safety, drainage design with gutter flow and hydraulic grade line analysis, land surveying, geotechnical and subsurface investigation, pavement design, utility design, quantity takeoffs and engineer’s cost estimate preparation, and development of contract documents and specifications. Freeman Companies also provided Construction Engineering & Inspection on this project. Work was complete in late 2015, in compliance with FTA requirements.

Owner: City of Hartford
Client: Greater Hartford Transit District
Services: Land Surveying, Roadway Design, Geotechnical Engineering, Construction Inspection
Years Services Provided: 2013 – 2015
Prime or Sub: Prime



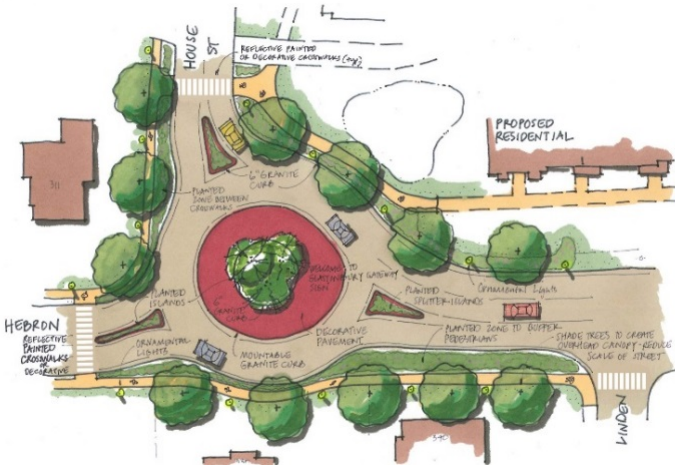
Town of Hamden: Feasibility Study and Design of a Roundabout at the Intersection of Ridge Road and Hartford Turnpike Hamden, Connecticut



Freeman Companies is providing Landscape Architecture services to the Prime Engineer for this important project which entails a complete design for a roundabout at the existing intersection on Ridge Road, where Hartford Turnpike Road meets.

The Town's proposal for Ridge Road intersection is a roundabout design which provides a safer connectivity between the intersection of Ridge Road and Hartford Turnpike with Basset Field with an emphasis on pedestrian traffic. The submissions must include all necessary roundabout ingredients, including but not limited to, lighting, remotely controlled digital display systems, landscaping, sidewalks, pavements, drainage, markings and striping. The design of this project is funded by the Town of Hamden.

Town of Glastonbury: House Street (at Hebron Avenue, State Route 94) Roundabout Glastonbury, Connecticut



Freeman Companies is currently providing Landscape Architecture design services as a subconsultant to the Prime Engineer for the design of roundabouts at two intersections along Hebron Avenue, State Route 94. The House Street intersection is a gateway to the Town of Glastonbury. The heavy traffic volumes and long vehicle queuing at the intersection of House Street and Hebron Avenue made it a top priority for implementation of safety improvements. Hebron Avenue is known in this area as State Route 94. Promoting increased pedestrian and bicyclist safety at this location is a major goal. The improved street design will calm traffic, increase safety, encourage walking and cycling and harmonize the scale. Details reflect the vernacular of the town and incorporates green infrastructure techniques.

Freeman Companies is responsible for the selection and detailing of all aesthetic improvements including landscaping, lighting, truck apron, splitter islands and crosswalks.

Town of Glastonbury: New London Turnpike (at Hebron Avenue, State Route 94) Roundabout Glastonbury, Connecticut

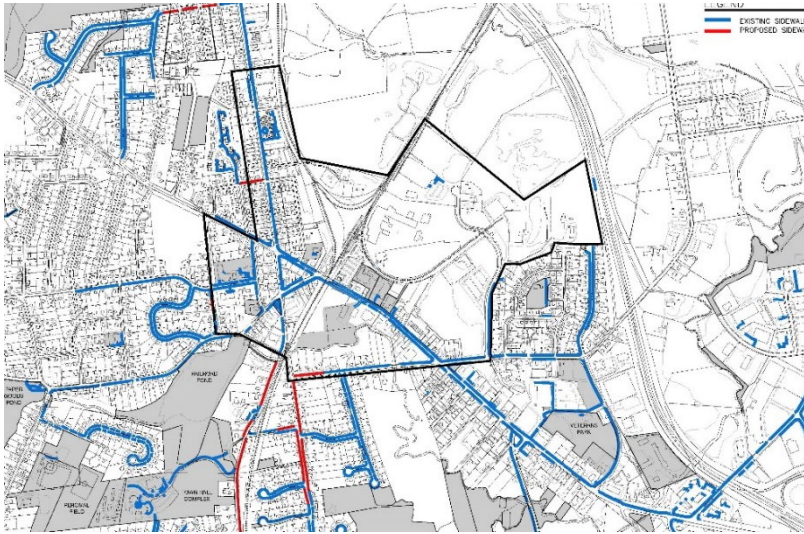


Freeman Companies is currently providing Landscape Architecture design services as a subconsultant to the Prime Engineer for the design of roundabouts at two intersections along Hebron Avenue, State Route 94.

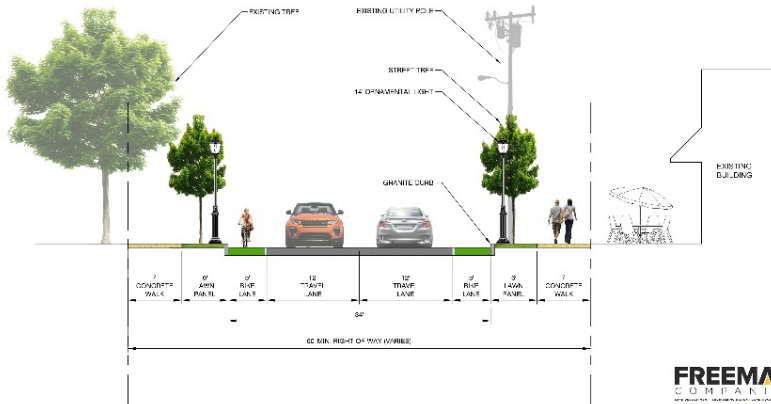
Freeman Companies provided design services for safety improvements at the intersection of New London Turnpike and Hebron Avenue – both of which are Town owned roads. The roundabout design was proposed due to heavy traffic volumes and speeding in the downtown center area. Freeman Companies was responsible for promoting bicycle and pedestrian safety as well as detailing and selection of construction materials and aesthetic improvements including landscaping, gateway walls, accent lighting, and decorative pavement materials. In addition, Freeman Companies coordinated plant selection and locations with the Town Beautification Committee to ease maintenance operations. Construction was completed in fall of 2017.

Town of Berlin: Transit Oriented Development Planning in the Vicinity of the Berlin Train Station

Kensington Station, Berlin, Connecticut



FARMINGTON AVENUE STREETSCAPE SECTION



The scope of work involved evaluating specific TOD development opportunities (small properties, large properties, assemblage), parking improvement opportunities, potential zoning amendments, creation a 3D planning model for the area, public participation, preparation of a marketing plan, an analysis of development constraints and an analysis of open space linkages and pedestrian improvements. The Town has been awarded a \$150,000 State of Connecticut STEAP grant to fund the TOD planning project. Freeman Companies' Project Manager Heidi Berg Hajna, PLA, ASLA and Senior Landscape Architect Sue Watts, PLA, ASLA provided Landscape Architecture to the multi-disciplinary consulting team.

Freeman Companies is a sub-consultant to the CivicMoxie planning team. The firm provided site analysis and existing conditions maps depicting open space, sidewalks, bicycle access, pedestrian connections, linkages and barriers to connectivity; assisted the team with identification and concept planning of redevelopment areas; prepared Concept streetscape plan and section depicting proposed multimodal and aesthetic improvements as well as opportunities for incorporating green infrastructure technologies into the redevelopment areas.



City of Hartford and the Greater Hartford Transit District: FTA Bus Livability Program: Sigourney Street Station Streetscape Improvements Hartford, Connecticut



Freeman Companies' Director of Landscape Architecture Studio Heidi Berg Hajna, PLA, ASLA served on this project while employed by TPA Design Group.

This project proposed a series of pedestrian, bicycle, safety and streetscape improvements of several streets (Sigourney, Hawthorn, Laurel Streets and Capitol Avenue) in the vicinity of the Sigourney Street Station of the New Britain-Hartford Bus Rapid Transit Project (CTfastrak). These pedestrian improvements will greatly improve access to the station for nearby employers and neighborhoods (especially Frog Hollow to the south and Asylum Hill to the north) by making routes safer, more convenient, more attractive, thereby increasing ridership potential and improving the livability and sustainability of the surrounding neighborhoods.

The project included wayfinding signage, new and/or enhanced sidewalks, new crosswalks at desired crossing locations, traffic calming including curb bump outs, reduction of travel lanes, addition of bike lanes, and roadway milling and paving along with streetscape amenities such as pedestrian scale lighting, gateway seating areas, landscaping, period style site furnishings, and aesthetic improvements such as planting street trees and landscaping. All improvements meet compliance with the Americans with Disabilities Act (ADA) requirements.

The project is funded by the FTA's Section 5309 Discretionary Bus Livability program administered through the Greater Hartford Transit District. The design has been completed and construction is expected to commence in Summer 2015. Construction Cost is \$ 1,800,000.

Owner/Client: Greater Hartford Transit District
Services: Landscape Architecture
Years Services Provided: 2013-2015
Prime or Sub: Prime

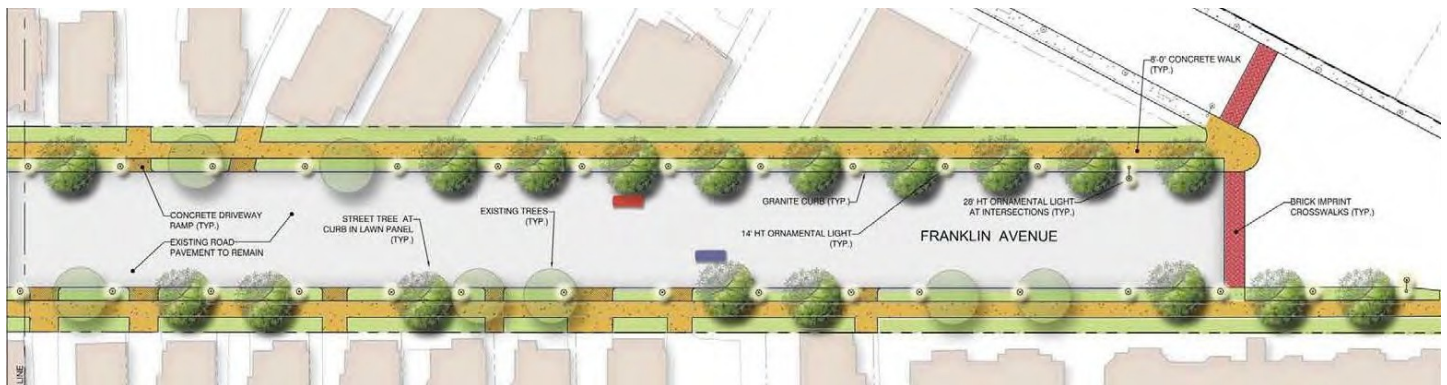
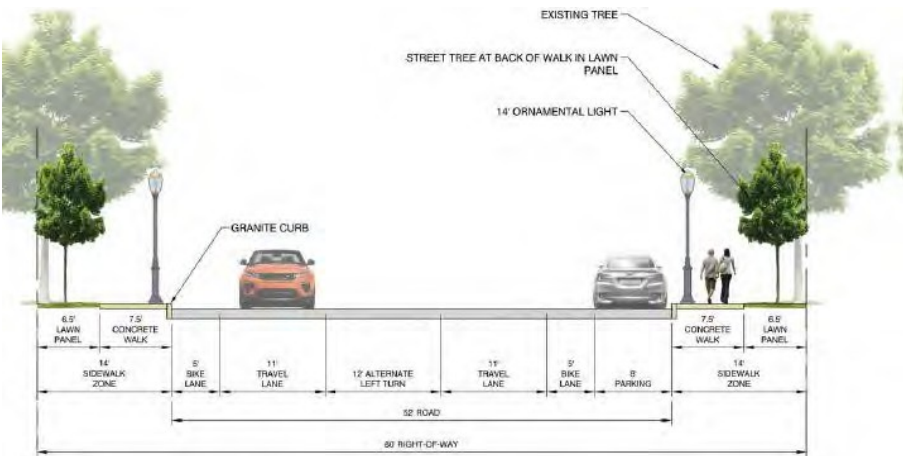


City of Hartford: Hartford Streetscape Feasibility Conceptual Design Maple, Franklin and Wethersfield Avenues Hartford, Connecticut



Freeman Companies was selected by the City to provide design and engineering advisory services for streetscape improvements within various locations, including Maple Avenue, Franklin Avenue and Wethersfield Avenue. City streetscapes typically total \$2,000 per linear foot. Due to limited funds, however, this feasibility assessment explores the opportunity to decrease this usual expense per linear foot to about half or less – while also trying to maximize the benefits of using the best practices in streetscape design and to educate residents and businesses to ensure a general acceptance. Concept plans for all 3 Avenues were recently completed.

Owner/Client: City of Hartford
Services: Landscape Architecture and Civil Engineering
Years Services Provided: 2015-Present
Prime or Sub: Prime



Upper Albany Main Street, Inc. and the University of Hartford On-Call Professional Engineering: Commercial Façade Improvements Program Hartford, Connecticut



COMMERCIAL FAÇADE IMPROVEMENTS PROGRAM

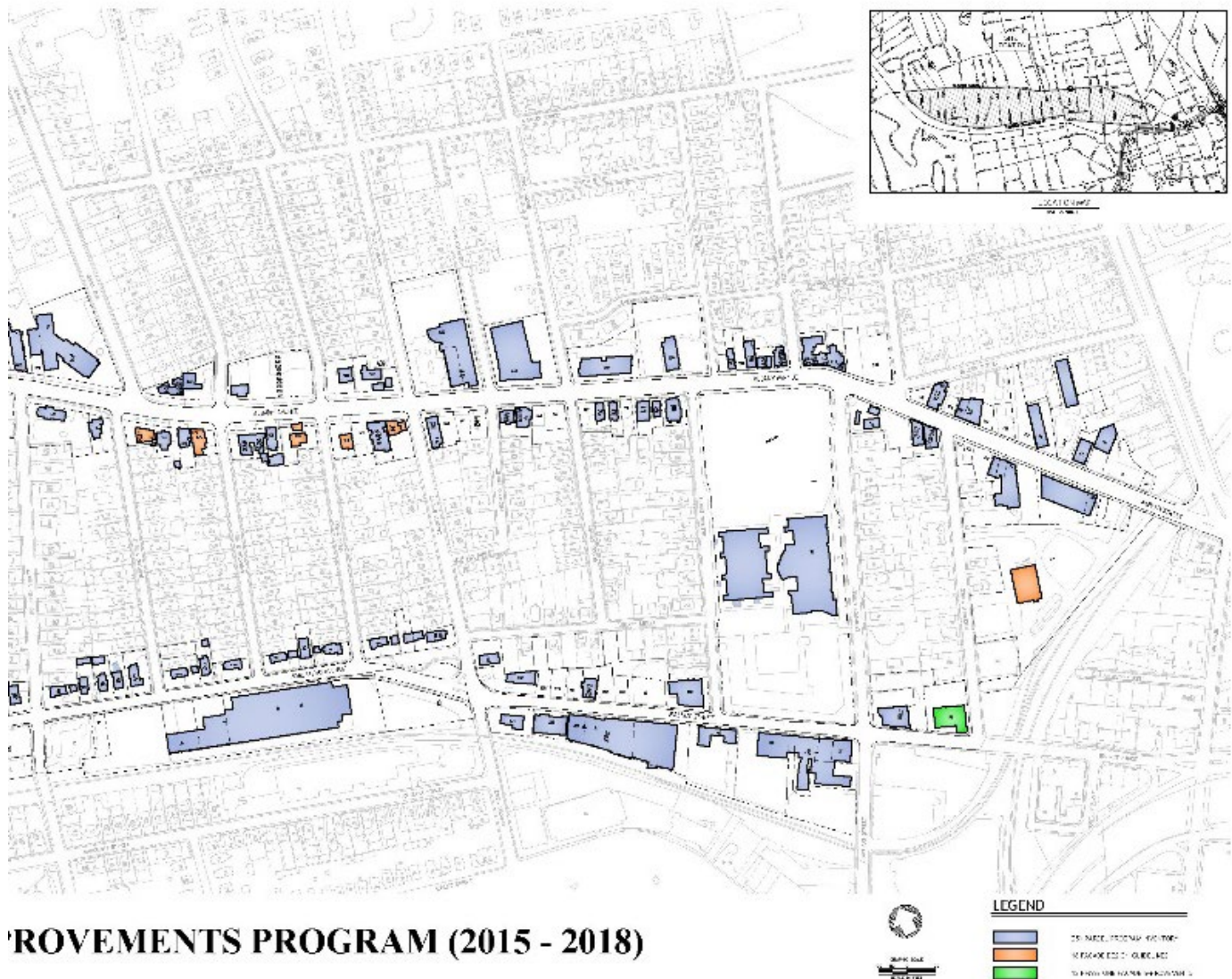
Upper Albany Main Street (UAMS) has received funding to coordinate a multi-year project that will design and create attractive and code-compliant facades for commercial structures along Albany Avenue and Homestead Avenue in North Hartford. This redevelopment and beautification initiative will complement and enhance the larger-scale Albany Avenue Streetscape to be undertaken by various State and City of Hartford agencies. The end result of the Façade and Streetscape projects will be a restored and vibrant Gateway to the City of Hartford from the western suburbs.

Upper Albany Main Street's Commercial Façade Improvements Program (CFIP) was developed in partnership with the University of Hartford, Connecticut's Department of Economic and Community Development, the City of Hartford, and the Hartford Foundation for Public Giving. The goals of the CFIP are to:

1. Stimulate development by providing incentives that increase existing business investment, promote business sustainability, and restore the grandeur of Hartford's Albany Avenue historic district;
2. Create an "Area of Destination" by encouraging new and innovative investments in retail and other goods, products and services;
3. Complement the City of Hartford development plan and Connecticut Department of Transportation Route 44 Safety Improvement and Streetscape Project, while integrating modern commercial building facades with new road and street enhancements;
4. Create attractive, code-compliant facades for commercial structures along Albany and Homestead Avenues in the Upper Albany community.

Freeman Companies was selected by UAMS as On-Call Program Engineer for the ambitious CFIP, supporting commercial façade improvements including conceptual reports, engineering investigations, feasibility studies, final design plans and specifications for bidding, construction cost estimating, environmental analysis and hazardous material investigation, and land surveying.

Upper Albany Main Street, Inc. and the University of Hartford On-Call Professional Engineering: Commercial Facade Improvements Program Hartford, Connecticut



Phase One involves laser scanning for the rapid collection of 3D data to capture data quickly and safely with immense detail and accuracy and data collection for approximately 250 properties and façade hygiene documentation to support design guidelines and façade improvement design for approximately 31 properties along Albany Avenue, Homestead Avenue, and Walnut Street. Three University of Hartford engineering and architecture student interns are assisting the design team with online and field data acquisition and entry into share file system for ease of access and updating. Data includes identification of parcel, owner, zone, business name, signage, historic significance, taxes, off street parking, age of building, certificate of occupancy, accessibility, utilities, site furnishings, garbage disposal, building exterior envelope, and potential presence of hazardous materials.

The Program site is located at Albany Avenue (Route 44) between Westbourne and Main Streets-approximately 1.5 miles, Homestead Avenue between Westbourne and Garden-approximately 1 mile, and Walnut Street between Garden and High Street-approximately .5 mile in Hartford. All facade improvements are developed in compliance with the Secretary of Interior's Standards for Rehabilitation, as well as CFIP Design Guidelines created by the Program Architect. Front yard design plans will enhance the façade improvements and connect to the proposed streetscape improvements along Albany Avenue. Site development plans will depict preferred redevelopment scenarios for select vacant, underutilized properties along the corridor. Estimate of probable costs will assist in receipt of funding.

Owner: Upper Albany Main Street, Inc.

Client: Upper Albany Main Street, Inc. and the University of Hartford

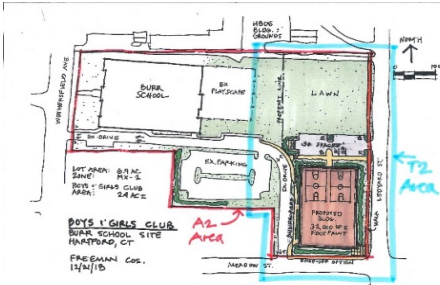
Services: Land Surveying, Civil Engineering, Hazardous Building Material Services, Landscape Architecture, Project Management

Years Services Provided: 2015-Present (3 year On-Call Term)

Prime or Sub: Prime

Campuses / Buildings for Community

Boys and Girls Clubs of Hartford, Inc.: New South End Boys & Girls Club Site Selection / Due Diligence, Hartford



Since early 2018, Freeman Companies' site-civil engineers, landscape architects, land surveyors, environmental specialists, geotechnical and traffic engineers have investigated the suitability of 8 possible sites in South Hartford for the new Club, in collaboration with the Building Committee, the Architect for Feasibility and the City of Hartford's Planning and Zoning division. The current parcel proposed for the new Club sits at the southeastern portion of the block occupied by the Alfred E. Burr Elementary School. This parcel sits at the southeastern portion of the block, adjacent to Ledyard and Meadow Streets, and is approximately 2.4 acres. The new club will enable BGCH to serve 1,500 youth each year and provide various programs and services to the next four generations of Hartford's children in the South End. 32,000 SF of new construction is anticipated and may offer space for a Teen Center, Tech Center, Games Room, Performing Arts and Fine Arts/Crafts Room, a Field House with full size Basketball Court, TV/Recording Studio, Kitchen/Café, Storage, Locker Rooms, and administrative and building support spaces. The lobby will also double as an area for gatherings and formal functions.

The new Club has been in the planning stage for several months and project progress has been enabled by a recent grant from the State of Connecticut Department of Mental Health and Addiction Services (DMHAS) in the amount of \$ 7 million dollars. It is anticipated that the total project cost will be approximately \$ 10 million in construction cost. The facility is expected to be operational August 2021.

Hartford School Building Committee: Dr. Martin Luther King Jr. Magnet Campus Renovation-as-New, Hartford



Freeman Companies was selected by the Prime Architect for comprehensive site/civil engineering, land surveying, landscape architecture, geotechnical engineering, and traffic engineering for this fast-track multiple-phased project to incorporate the current Dr. Martin Luther King, Jr. Middle School and Breakthrough North Magnet Elementary into one campus. The project team's task is to reimagine and renovate-as-new the currently unoccupied facility into an 11.5 acre PreK-8 Campus for the 2020 academic year. A two-story addition for middle school dining and multipurpose space, used primarily by the elementary students, has an operable wall between to transform into shared space. Outdoor courtyards allow classrooms access to natural daylight, play space and additional outdoor learning classrooms. The new addition is planned on the east side of the existing building.

Parking areas and roads will be modified to accommodate the new area. A new road will be located along the west side of the building. A soccer field will be constructed within the southwest portion of the site. Earth slopes will be constructed to transition between the new grades. A retaining wall up to about 6-foot high will be required on the west side of the soccer field. The existing building is underlain by extensive soft varved clay soils typical to the City of Hartford which are expected to settle beneath new portions of the renovated building. Foundation design has considered the presence of the varved clay, and has compiled information regarding its thickness and consolidation properties. It is anticipated that the soft ground beneath foundations will need to be stiffened using a ground improvement method such as aggregate piers, thereby enhancing bearing capacity and reducing settlement. Completion is estimated for 2020. Construction cost is estimated at \$ 85 million. The project involves 140,000 SF renovation and 34,000 SF new construction. (Graphic/Architect: JCY Architecture)

Hartford School Building Committee: Weaver High School Renovation-as-New and Multi-Purpose Athletics Field House, Hartford



Freeman Companies is providing Land Surveying, Civil Engineering, and Geotechnical Engineering services to the Prime Architect for the "renovation-as-new" of Weaver High School for the Hartford School Building Committee. For this project, the school was demolished leaving the existing pile foundation to be re-purposed for the new school structure. Design elements include new track and field venues and a natural turf multi-purpose sports field. For storm drainage, our civil engineers had to work around an existing 109-inch pipe that crosses the site from north to south and reused this for the new drainage layout of the campus, incorporating another repurposing element into the design. The previously existing academic wing was a five story structure with limited access to daylighting and views and is to be downsized and reconfigured extensively. Early investigations during design were required in order to determine how much of the academic

wing would be demolished or if it is more cost effective for it to be replaced with new construction sized appropriately for the projected enrollment. The Freeman Companies geotechnical team conducted pile tests to ensure the old structure could support the new design. Geotechnical work has included an early report - "Review of Previous Explorations and Preliminary Foundation Options" - where Freeman Cos.' experience with Hartford's lacustrine deposits (varved silt and clay) and proposed 3-4-story school building projects, has significantly informed these early recommendations. Subsurface conditions include fill, glacial till, bedrock and lacustrine deposits from a depth of 62 to 105 feet thick. These soils present significant challenges to construction due to a low allowable bearing capacity and the potential for significant building settlement. (Graphic/Architects: The S/L/A/M Collaborative and Amenta Emma Architects)

Hartford School Building Committee: West Middle School Renovation-as-New, Hartford



The project consists of comprehensive alterations to the site and building to update the school for code compliance, accessibility and technologic purposes. The project requires the demolition of portions of the existing buildings (approx. 22,000 SF) and the construction of approximately 40,000 SF of new space, resulting in a 108,000 SF final building area to serve 750 students. Construction Cost: \$ 64.6 Million. The southern portion of the

existing school building was demolished and replaced with a four-story academic wing. The academic wing is connected with the existing Annex Building to the southwest and the existing Gymnasium building to the southeast. Freeman Companies was responsible for providing land surveying, civil and geotechnical engineering services. This site had geotechnical challenges due to the fact that the site resides on over 95 feet of soft lacustrine silt and clay, which is compressible and will settle in response to new foundation loads. The estimated total settlement beneath a spread footing foundation system without subgrade reinforcement is estimated to be between approximately 2 and 3 inches, which is excessive and cannot be tolerated by the new building. After many rounds of advanced soil testing and analysis, lead Geotechnical Engineer Nate Whetten recommended that the upper portion of the clay be stiffened by installing rammed aggregate piers to decrease settlement and increase bearing capacity of the native clay soils. This recommendation was intended to provide a cost-effective way to reduce settlement to a tolerable level. The findings of the geotechnical evaluation were confirmed by an independent peer review for compliance to Connecticut State Building Code and provided considerable cost savings to the project.

Hartford School Building Committee: Hartford Magnet Trinity College Academy at the Learning Corridor, Hartford

Addition of 24,000 SF for classroom space to the existing 143,353 SF Hartford Magnet Middle School (HMMS) building in order to accommodate an expansion of grade ranges (from 6-8 to 6-12) and enrollment (from capacity of 750 students to 1080 students) in support of this new program, an Early College model in Partnership with Trinity College. The existing HMMS building was constructed in 2000 as a non-magnet component of the Learning Corridor. The project involved the alteration of existing space within both HMMS and the shared space of the Learning Corridor's Commons buildings and construction of the new "connector" addition. The 15.7 acre property currently consists of existing school buildings, concrete sidewalks and courtyards, and bituminous parking areas. Site improvements include new courtyard layout, sidewalks, storm drainage, utility services, and landscape design. Utility coordination was of high importance due to the numerous utilities within the project area. In addition, the drop-off area along Broad Street will be extended and the Vernon Street drop-off area was altered to add a curbed island separating Vernon Street from the drop-off area. Freeman Companies provided Civil Engineering, Land Surveying and Landscape Architecture services.



Capitol Region Education Council (CREC): Museum Academy Magnet School, Bloomfield



Freeman Companies provided civil, environmental, geotechnical and traffic engineering services to the Prime Architect for the new \$ 33.3 Million CREC Museum Academy. The school was designed for 75,000 square feet of "active-learning" space for 522 students in grades PreK – 5 and for advancement of "hands-on, minds-on, authentic learning through partnerships with museums throughout the state to customize museum teachings to match the humanities-based curriculum". Outdoor learning and display spaces are featured throughout the 16.83-acre site. All of the School's outdoor facilities are open for town use. The existing school has been replaced with the new Academy and improvements include a new sport playing field, driveways, parking lot, sidewalks, storm drainage, utility services, and plantings. The youngest students, 126 in PreK education, enjoy a dedicated entrance to the school where "valet service" is provided and school staff escort the small



children into the school. The facility and grounds have been designed to LEED Silver equivalency under the Connecticut High Performance rating system. Prior to final selection of the Bloomfield site, site selection and due diligence also involved comprehensive analysis of the historic Hartford College for Women campus in the West End of Hartford and an additional site in nearby Simsbury.

City of New Haven: New Haven School Construction Authority: Barack H. Obama Magnet University School (formerly the Strong School), Campus of Southern Connecticut State University, New Haven



Freeman Companies is providing Land Surveying, Civil and Geotechnical Engineering, Traffic Engineering, Landscape Architecture, Permitting and Environmental Services to the Prime Architect for this new, 490-student, 65,000 GSF PreK-4 School located on the campus of SCSU in New Haven. The construction of the elementary school will provide an

integrated educational approach that allows college students pursuing education degrees the opportunity to work with elementary school students in a project-based education experience. Design considerations include nearby multi-family homes and the preservation

of 200 year-old oak trees that will be incorporated into an outdoor classroom setting with anchored picnic tables. Other elements include ramps and sidewalks functioning on the existing slopes of the site to be used as entrances and exits, a playground slides that will follow the natural shape of the hill, and a vegetable garden to be used for classroom curriculum. (Graphic/Architects: JCJ Architecture and Pickard-Chilton Architects)

Capital Region Development Authority (CRDA): Dillon Stadium Rehabilitation: Hartford

Dillon Stadium is an existing field and stadium that was originally constructed in the 1930's; over the years the facility was used for sporting events, concerts and large community festivals. Freeman Companies is collaborating with the Prime Architect, CRDA, the City, MDC, the Developer and other stakeholders to bring a United Soccer League franchise to Hartford as part of the effort to revitalize Dillon Stadium. While the facility is owned by the City of Hartford, it will be managed by CRDA and the Developer will operate as the primary tenant. To meet the stipulations of the USL agreement, the facility is being renovated for a capacity of 7,500 patrons. The project scope includes: Press box; Synthetic turf that meets FIFA 2 Star requirements and the City of Hartford infill requirements; Cost-effective approaches to premium offerings (VIP space, field seats, etc.) as well as other revenue-generating opportunities; and comprehensive renovation that meets ADA and code requirements. Freeman Companies is providing comprehensive site/civil engineering, permitting, and hazardous building materials services. (Graphic/Architect: JCJ Architecture)



UCONN Student Recreation Center, Storrs



Geotechnical Project Management to the Prime Architect for the new 200,000 SF, three-story intramural, recreation, intercollegiate Student Recreation Center located on Hillside Road at the center of campus and site of the aging Connecticut Commons (recently demolished). Planners envision the Center as a new "Main Street" of student-focused sites and services. The project will conform to Connecticut High Performance Building Codes and will be certified as LEED Gold. This project is presently under construction. The new facility is anticipated to feature a basketball, racquetball and multi-activity courts, cardiovascular and strength training areas and multiple fitness studios. The space will also feature an aquatics center with two swimming pools, a climbing center, running track, and meeting



and support areas for intramural and club sports. An Outdoor Pursuits center will serve as a space for students to gather outdoor instructional experiences and engage in teambuilding exercises. In addition to the new Hillside Road recreation center, the project will include building a multi-purpose outdoor recreation field at parking Lot D, off Alumni Drive. The entire project is anticipated to cost \$ 100 million. Freeman Companies conducted a detailed review of existing information on the site area and prepared a comprehensive Subsurface Exploration Program, including technical monitoring, lab testing and detailed analysis for site development and construction, which included: recommended foundation type with foundation design criteria, earthquake engineering considerations, estimates of settlement, recommended design for ground floor slab and general requirements for foundation and floor drainage, suitability of on-site soils, and comments on construction related aspects of soils and foundations.

Special Inspections Involve Observation of: Shallow Foundations and Geotextile Separation Fabric and Slab Subbase, as foundation subgrades are prepared by the Contractor. Observation is required by Freeman Companies to confirm compliance to specification requirements. Regarding Special Inspection of Controlled Structural Fill, Freeman Companies has reviewed documentation prepared by the testing lab to confirm that the laboratory tests and field density tests also meet specification requirements. (Graphics/Architect: JCJ Architecture)

UCONN: Burton Family Football Complex and Mark R. Shenkman Training Center, Storrs

UCONN's new, 165,000 SF on-campus indoor athletic training facility, the first of its kind in the United States and the UCONN's first LEED accredited facility. Freeman Companies' President Rohan A. Freeman, PE, LS and Vice President of Geotechnical Engineering Services Nathan L. Whetten, PE, D.GE, CG collaborated on site development for this significant project for UCONN. The facility serves a major role as a recruiting tool for student-athletes, and an icon for the University's ambitious Division 1A football program. Conceived as a world-class facility, the project presents a unique image within the campus context, while meeting the very specific technical requirements of an athletics-training center. Key program elements include an indoor 100-yard football practice field, strength and conditioning facilities, locker facilities for athletes and coaches, meeting rooms, sports medicine facility and clinic, academic resources area, classrooms and meeting rooms, taping and broadcast facilities and a press briefing room. (Graphic/Architect: JCJ Architecture)



Mark Twain House and Museum: Grant-Funded Campus Improvements, Hartford



As part of a multi-disciplinary, contractor-lead, design-build team, Freeman Companies, LLC was selected by The Mark Twain House & Museum (MTH&M) in downtown Hartford to provide Civil Engineering services for this treasured local, State, and Federal Landmark site. Work is funded by a recent Connecticut DECD grant and includes a combination of design-build, historic preservation, and other needed improvements to the three buildings and site which comprise the historic campus. Freeman Companies has been engaged in two of the priority improvements (parking lot drainage and the Carriage House Driveway).

Connecticut Department of Transportation: CTfastrak, New Britain to Hartford

Freeman Companies' Director of Geotechnical Engineering Nate Whetten served as Project Manager for design of eleven stations located along a new dedicated bus roadway between New Britain and Hartford. The busway alignment follows an existing railroad corridor and adjacent to an existing Amtrak Railroad Corridor. The existing railroad embankment will be raised and widened to provide room for the busway. The stations provide public access to the busway at strategic locations and include buildings, retaining walls, canopy shelters, platforms and other structures. Conducted subsurface explorations and provided preliminary and final design geotechnical recommendations for design of the proposed stations. Challenges include design of structures and embankments over soft lacustrine clay deposits, evaluation of settlement along the Amtrak railroad tracks, and stability of embankments and retaining walls.



Challenges include design of structures and embankments over soft lacustrine clay deposits, evaluation of settlement along the Amtrak railroad tracks, and stability of embankments and retaining walls.

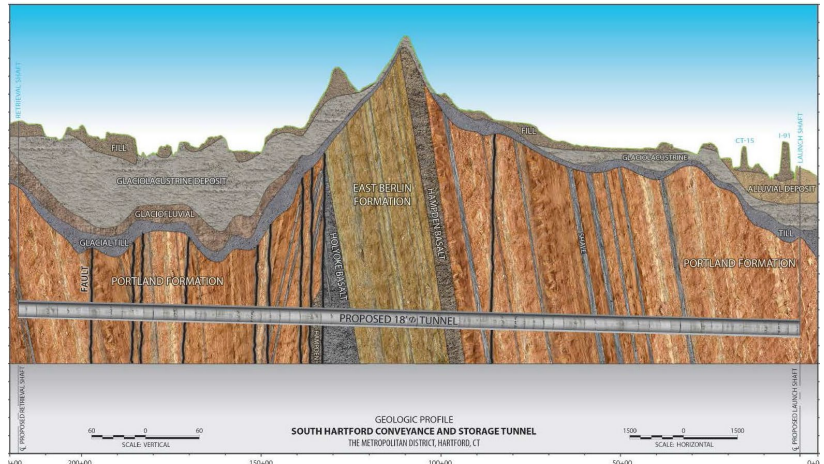
City of Hartford: Capitol Avenue Streetscape Improvement Project, Hartford

Freeman Companies' Senior Landscape Architect Heidi Berg Hajna, PLA, ASLA acted as Lead Consultant for this Project. The Capitol Avenue Streetscape Improvement and Traffic Calming Project resulted from a planning process undertaken as part of the City of Hartford's 2010 application to the U.S. EPA for its "Greening America's Capitals" Program. It is located in the immediate vicinity of the Sigourney Street Station Streetscape/Bus Livability Improvements Project. The City of Hartford requested assistance to reimagine a mile-long portion of Capitol Avenue, home to many important historical and cultural assets and focal point of the City that includes the Connecticut State Capitol and Legislative Building, the State Library, the Supreme Court, State Armory, three churches, Bushnell Park, Bushnell Center for the Performing Arts, as well as residential and retail areas. The Greening America's Capitals workshop helped Hartford staff and stakeholders create a redevelopment plan for the Capitol Avenue corridor and connections to nearby locations, such as the Frog Hollow neighborhood and CTfastrak bus rapid transit station at Sigourney Street. Redesigns focused on public spaces, such as parks and state building grounds, and green street improvements that better manage stormwater, improve the pedestrian environment and aesthetics, and encourage future redevelopment. Preliminary design of pedestrian, bicycle, and streetscape improvements along Capitol Avenue between Park Terrace and Trinity Street. Planning include traffic calming devices, reduction of travel lanes, addition of bike lanes, and redesign of a major intersection at the entrance to the state capitol, including feasibility of modern roundabout design. The \$ 8 million project is funded and administered through the City of Hartford.



Metropolitan District Commission: Clean Water Project (CWP): Contracts 1 and 2: South Hartford Conveyance and Storage Tunnel – Tunnel and Shaft Construction Hartford – West Hartford, Connecticut

The deep rock South Hartford Conveyance and Storage Tunnel is the key component of the MDC's Clean Water Project, a CTDEEP and EPA-mandated, over 15-year plan designed to control and reduce the overflow of untreated sewage into natural waterways resulting from Combined Sewer Overflows (CSOs). Occurring during heavy rainfall, CSOs have caused existing infrastructure to push unwanted wastewater into the Connecticut River and Long Island Sound with major storm events. Once fully constructed, the 18-foot diameter, four-mile long tunnel structure will handle sewage from Hartford, West Hartford, and Newington and will be able to store 41.5 million gallons until the stored wastewater can be treated at the MDC's Hartford Water Pollution Control Facility. Ultimately, this large capacity of storage will dramatically reduce CSOs from much of the South Hartford area. The SHCST is being constructed by tunneling within bedrock 200 to 250 feet below ground surface. The MDC intends to accomplish this work under five separate contracts: Contract #1: Preparatory Utility Relocation; Contract (Awarded) #2: Tunnel and Shaft Construction (Awarded); Contract #3: Tunnel Pump Station; Contract #4: Franklin Avenue and Maple Avenue Consolidation Conduits; and Contract #5: Flatbush, Arlington, New Britain and Newington Consolidation Conduits.



Construction Contract 1: Eversource/CL&P: Ductbank Relocation and Switchgear Site Work

The Preparatory Utility Relocation included a new 23kV concrete primary duct bank and manholes at the Tunnel Pump Station site as well as construction of a new concrete switchgear pad for both permanent and temporary power. Upon completion, Eversource (formerly CL&P) pulled and terminated the conductors along with installing new switchgear. Freeman Companies provided comprehensive monitoring services, including but not limited to: coordination with utilities and railroad, deep benchmarks, deformation monitoring points, monthly monitoring, and any additional monitoring requested by the Prime. The firm was also responsible for setting stakes, digging and backfill of roadblock for monitoring points, night work installing monitoring points, and coordination/communication with other geotechnical team members and land surveyors.

Construction Contract 2: Tunnel and Shaft Construction: Freeman Companies' Land Surveyors, Geotechnical and Civil Engineers are providing Geotechnical Instrumentation and Monitoring and Weekly Stormwater General Permit Compliance Services to the Prime Contractor, Kenny/Obayashi. Instrumentation installation, maintenance and data collection during construction. Instrumentation includes up to ten simultaneously-deployed automated vibration monitoring units near the launch shaft on Brainard Road and up to four additional units at the retrieval shaft on Talcott Road in West Hartford as well as 45 piezometers; 5 deep benchmarks; 10 inclinometers; 9 utility monitoring points; over 300 deformation monitoring points; and over 100 crack monitors. Managing nearly 400 pre-construction surveys. Duties include oversight of data collection and reporting and management of the Project Limited Access Website as well as real-time text and email notifications of specified PPV exceedance. These services began in 2015 and will continue until the Tunnel's completion in early 2023.

Owner: Metropolitan District Commission

Client: AECOM (Design) Camputaro & Son (Contract 1) Kenny Obayashi JV IV (Contract 2)

Services: Contract 1: Installation of Localized Geotechnical Instrumentation Monitoring Points on Clark Dike and Surrounding Areas, Adjacent Highway Embankments, Treatment Plant Structures, and Others in Vicinity; Survey Crews Performed Manual Readings

Services: Contract 2: Geotechnical Instrumentation (Drilling and Blasting), Survey Location and Monitoring, Pre and Post Construction Inspections (Buildings, Utilities), Maintenance and Protection of Traffic, Monitoring Well Decommissioning, Observation Wells; and Stormwater General Permit: Inspections and Stormwater Compliance Monitoring

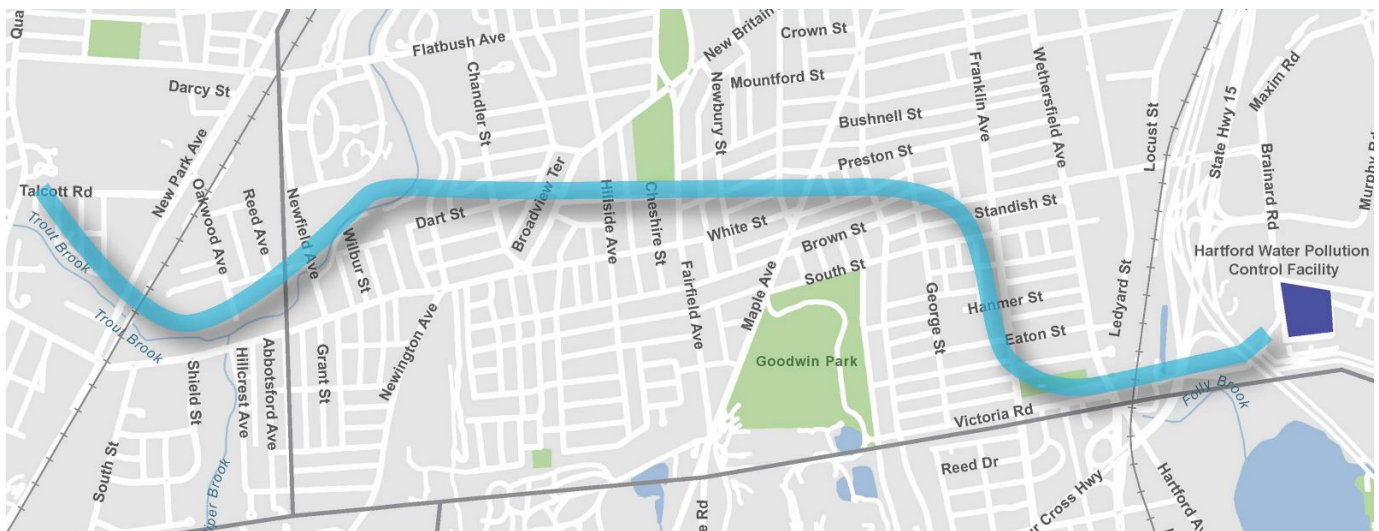
Years Services Provided: 2015 – 2016 (Contract 1) 2015-Ongoing (Contract 2)

Prime or Sub: Sub

Metropolitan District Commission: Clean Water Project (CWP): Geotechnical Engineering Support Services “Task 19” for South Hartford Conveyance and Storage Tunnel Hartford – West Hartford, Connecticut

The MDC’s Clean Water Project is a 15-year plan designed to control and reduce the overflow of untreated sewage into natural waterways. *The largest construction component of the CWP is the construction of the South Hartford Conveyance and Storage Tunnel (SHCST).* This 18 foot in diameter by 4 miles long structure will handle sewage from West Hartford, Newington and Hartford and will be able to store up to 41.5 million gallons of sewage until such time as this stored sewage can be treated at the Hartford Treatment Plant. The SHCST is being constructed by tunneling within bedrock 200 to 250 feet below ground surface.

Freeman Companies has provided geotechnical support services to the Prime Engineer for Task 19 associated with the Clean Water Project: South Hartford Conveyance and Storage Tunnel. This work is ongoing and has involved field surveying of borings and geophysical lines, rock core logging and processing (assisting with the detailed logging of the rock core by taking photographs of the core, conducting point load tests and performing other activities requested by the Prime Engineer to document the condition and strength of the rock core) and GINT log preparation (preparing a test boring log for each boring in accordance with standard MDC guidelines by entering subsurface soil and rock data into the GINT boring log program.)



Owner: Metropolitan District Commission

Client: AECOM (Prime Engineer)

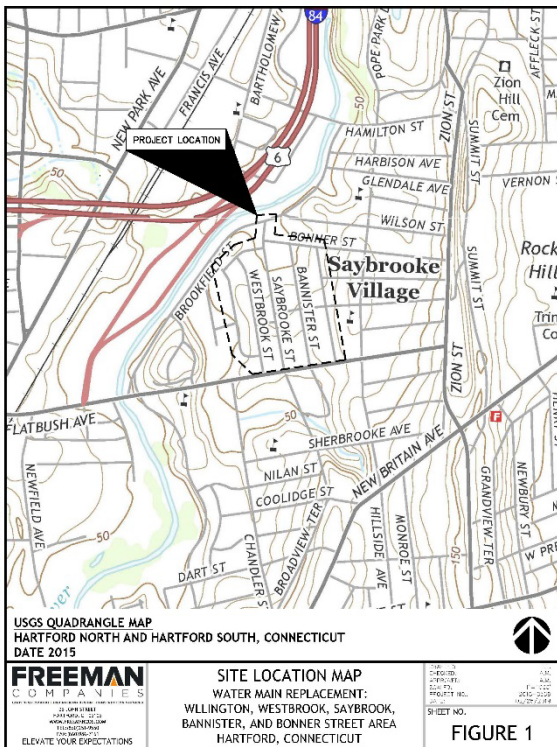
Services:

- Field Survey of Borings and Geophysical Lines
- Rock Core Logging and Processing
- GINT Log Preparation

Years Services Provided: Ongoing Task Agreement (From November 2012 to mid-July 2014)

Prime or Sub: Sub

Metropolitan District Commission: “Saybrooke and Bonner” Water Main Replacement Project Hartford “Behind the Rocks”, Connecticut



Freeman Companies is providing Land Survey, Geotechnical Engineering, Environmental Site Assessment and Traffic Engineering services to the Prime Engineer, JACOBS, for the “Saybrooke and Bonner” Water Main Replacement which will affect Saybrooke Street, Bonner Street, Ellington Street, Westbrook Street, Bannister Street, and Ledger Street in Hartford. *Freeman Companies will be providing similar services to JACOBS for the upcoming “Capitol and Sisson” Water Main Replacement, also in Hartford.*

For its geotechnical engineering scope of work, Freeman Companies engaged a subsurface exploration contractor to conduct test borings at the site; provided technical monitoring of the explorations; arranged for a testing laboratory to conduct laboratory soil tests; and evaluated the subsurface conditions and prepared the Geotechnical Data Report (GDR).

The site consists of existing city streets. Numerous utilities are located in the street and run parallel with an existing water main. Perpendicular connections lead to the adjacent house and school. The project consists of the replacement of the water main along the named streets. Burial depth for the new pipe will generally range from 5 feet to 8 feet below existing roadway grade depending on the location. Deeper excavations will be required at the connection to the existing 36 inch main on Brookfield Street at Saybrooke Street and Ellington Street.

Twenty test borings were drilled to depths of 15 feet to 17 feet below existing ground surface. Borings were drilled using 2.25 inch and 3.25 inch hollow stem augers. Standard Penetration Tests (SPTs) were taken semi-continuously to 9 feet and then at maximum 5-foot intervals thereafter. Environmental testing was completed in several borings and the results were presented by Freeman Companies in a separate report. All borings were terminated in the Glaciolacustrine Deposits with the exception of boring B-20 which was terminated in Glacial Till. Six groundwater monitoring wells were installed in completed boreholes at select boring locations and the remaining borings were backfilled upon

completion with drill cuttings and sand as necessary. A bituminous cold-patch was placed at ground surface in pavement areas. Cuttings from the groundwater monitoring wells were collected and drummed for disposal following environmental screening. A Freeman Companies geotechnical engineer observed the drilling and prepared the field boring logs with soil descriptions based on visual observation of the samples.

Subsurface conditions encountered in the test borings consisted of Fill overlying Glaciolacustrine Deposits and Glacial Till. Conditions are known only at the boring locations and may differ significantly around the site.

Fill – Fill was encountered in all the borings in the project area and ranged in thickness from 2 feet to 10 feet. Asphalt pavement was encountered in all the borings at ground surface and ranged in thickness from 4 inches to 8 inches. A base course was observed in various borings and ranged from 6 inches to 12 inches in thickness. The material description ranged from silty Sand with Gravel (SM) to sandy Silt (ML) to silty Clay (CL). Standard Penetration Test (SPT) N-values ranged from 3 to 38 blows per foot (bpf), corresponding to loose to dense. **Glaciolacustrine Deposits** – Glaciolacustrine Deposits were encountered in all of the borings. The material consists of an upper “crust” of Silt (ML) to Fat Clay (CH) overlying varved deposits of Lean Clay and Silt (CL & ML), and varved deposits of Fat Clay and Silt (CH & ML), with some samples having fine sand partings. Varves range in thickness from approximately 1/16 inch to 1/2 inch. SPT N-values ranged from 3 to 38 bpf (very soft to hard). **Glacial Till** – Glacial Till was only encountered in one boring. The Till was generally described as red-brown, Sandy SILT (ML). The SPT N-value for the one sample in the Glacial Till was 98 bpf (very dense).

Groundwater was encountered in the borings approximately 10 feet to 15 feet below the existing ground surface during the drilling. Measurements taken on February 25, 2019 in the monitoring wells indicated that groundwater is approximately 3.4 feet to 7.6 feet below the existing ground surface corresponding to Elevation 60.6 feet to 53.1 feet. An additional groundwater measurement was taken in April during the wet season to aid in determining the high groundwater level.

Owner: Metropolitan District Commission
Client: JACOBS (formerly CH2M Hill)
Prime or Sub: Sub
Services: Land Survey, Geotechnical Engineering, Environmental Site Assessment, Traffic Engineering
Years Services Provided: 2018-2019

Metropolitan District Commission: Linbrook Road and Montclair Drive Water Main and Sanitary Sewer Replacement West Hartford, Connecticut

The purpose of this project was to replace aged water line installed between 1935 and 1941 with an extensive break history and to replace/rehab sanitary sewer that was installed in 1935 and subject to substantial Infiltration & Inflow.

Design services, preparation of construction documents and a complete project manual (all divisions) for approximately 2,000 LF of water main replacement and sanitary sewer replacement on Linbrook Road from North Main Street to Trout Brook Drive. The Project was originally designed by the District in 2010, but it was not advertised for bid by the District. The District secured Freeman Companies to revise the Original Design plans and project manual for the water main replacement and sewer rehabilitation, including water main sterilization by injection method, preparation of final contract documents (design drawings and project manual) and provision of bidding services. The project also consists of coordinating and combining the existing Montclair Drive design with the Linbrook Road project as one construction document package and CCTV portions of the existing water and sewer mains. Freeman Companies provided land surveying, civil engineering, and maintenance and protection of traffic services for this project.

Montclair Drive consisted of design services, preparation of construction documents and a complete project manual (all divisions) for approximately 3,680 LF of water main replacement and approximately 2980 LF of sanitary sewer replacement on Montclair Drive from Fern Street to Linbrook Road. The project involved permitting, local approvals and coordination efforts with the Town of West Hartford.

The project was coordinated with the Town of West Hartford's efforts to rehabilitate the roadways and curbs in this neighborhood.

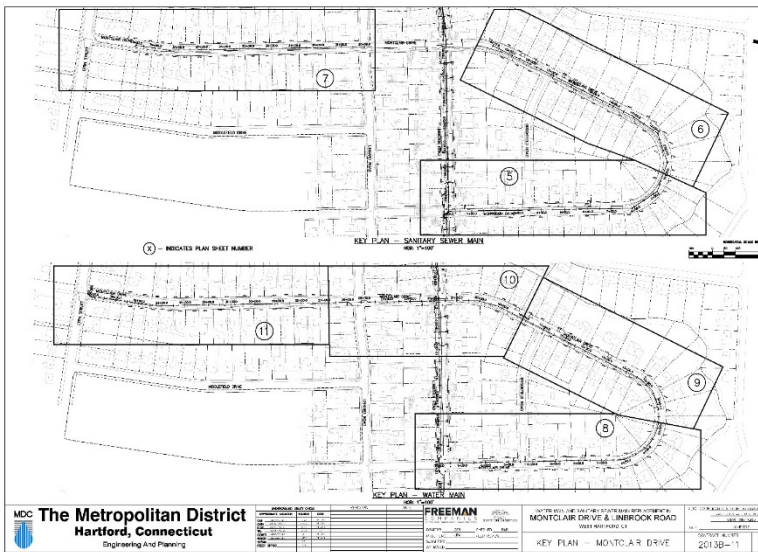
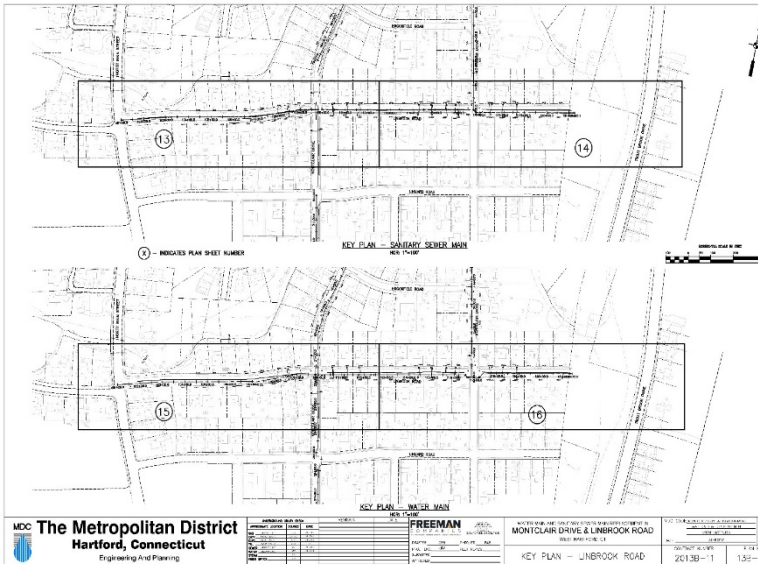
The project construction budget was \$5,400,000
The sanitary sewer was \$3,300,000
The domestic water construction budget was \$2,100,000

Water

9,340 of water distribution piping was installed
5,800 LF of 8 inch ductile iron water main were installed
3,540 LF of copper water services were installed
8 new fire hydrants were installed

Sanitary

4,800 LF of new sewer line was installed
3,660 LF of 6 inch sanitary sewer was replaced
410 LF of 8 inch sanitary sewer was replaced
790 LF of 10 Inch sanitary sewer was replaced
5,405 LF of sanitary sewer was lined
3,335 LF of 8 inch sanitary sewer was lined
2,070 LF of 27 inch sanitary sewer trunk line was installed
270 vertical feet of manhole was rehabilitated



Owner/Client: Metropolitan District Commission
Services: Land Survey, Conceptual Design, Water Main Design, Sanitary Sewer Design, Field Engineering, Permitting, Local Approvals and Project Coordination, Construction Administration, Maintenance and Protection of Traffic, Record of Site Improvement Survey, and Meetings and Project Coordination
Years Services Provided: 2011 – 2016
Prime or Sub: Prime

Metropolitan District Commission: Clean Water Project (CWP): Land Survey/3D Basemapping for South Hartford Conveyance and Storage Tunnel Hartford – West Hartford, Connecticut

The MDC's Clean Water Project is a 15-year plan designed to control and reduce the overflow of untreated sewage into natural waterways. *The largest construction component of the CWP is the construction of the South Hartford Conveyance and Storage Tunnel (SHCST).* This 18 foot in diameter by 4 miles long structure will handle sewage from West Hartford, Newington and Hartford and will be able to store up to 41.5 million gallons of sewage until such time as this stored sewage can be treated at the Hartford Treatment Plant. The SHCST is being constructed by tunneling within bedrock 200 to 250 feet below ground surface.



Freeman Companies has provided land surveying and geotechnical engineering services to AECOM, the Prime Engineer, since 2012 and has performed numerous additional services for the SHCST at the Prime Engineer's request. The firm was selected as one of four professional land surveyors to provide three-dimensional survey basemapping for the project. Freeman Companies' scope included: Flatbush Avenue Conduit (approximately 3,200 LF) and New Britain Avenue Conduit (approximately 6,200 LF), providing complete Civil 3D AutoCAD Basemap from face-of-building to face-of-building (survey corridor 100' wide in non-street areas); 3D basemap which included topography, property lines, all structures and all buried utilities; and four (4) and six (6), respectively, microtunnel shafts, each of which included a 1 acre off-street (or side street) area as part of the 3D survey basemap.

Owner: Metropolitan District Commission

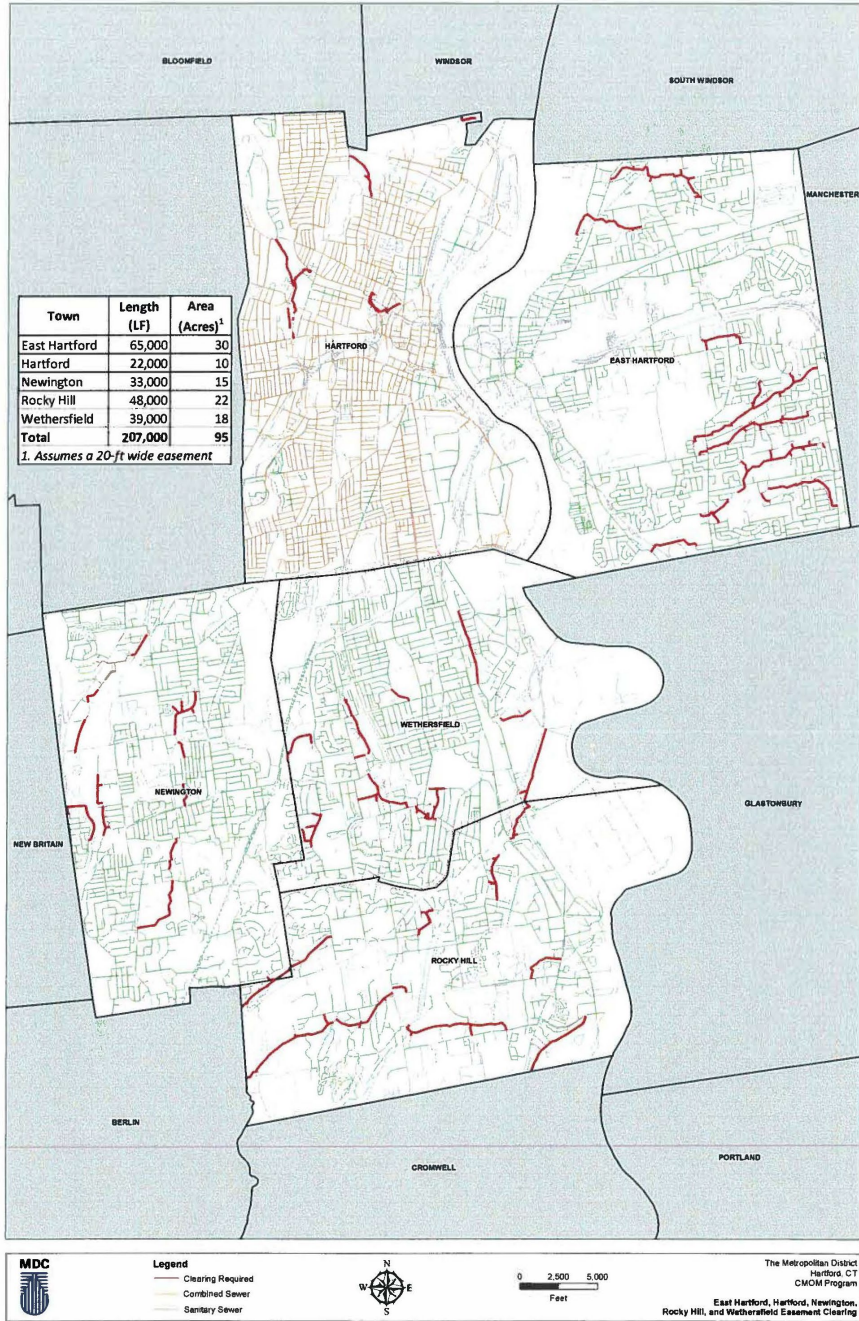
Client: AECOM (Prime Engineer)

Services: Land Surveying; Meetings and Project Coordination; 3-Dimensional Mapping (AutoCAD Civil 3D); Existing Easements and Utilities Mapped; Horizontal Control: A-2 Accuracy on the CGS; Vertical Control: T-2 Accuracy on NAVD; Topographic Survey/All Features; Wetland Areas Marked/Flagged

Years Services Provided: 2012 – 2018

Prime or Sub: Sub

Metropolitan District Commission: Capacity Management Operations & Maintenance (CMOM): Collection System Easement/Right-Of-Way Clearance Project Hartford, Rocky Hill and Wethersfield, Connecticut



Freeman Companies provided Land Surveying services to the Prime Engineer for the preparation of multiple ROW/Easement Surveys at various locations in Rocky Hill, Wethersfield and Hartford. ROW/Easement lines conform to horizontal accuracy Class A-2. The surveys depict existing boundaries with respect to buildings, structures, roadways, curbs, fences, walls, visible bodies of water, record easements, means of ingress/egress and apparent boundary encroachments. Research has been conducted at municipal/state offices and utility company offices to identify easements and encumbrances that may affect the properties. Freeman Cos. is also providing topographic mapping for the sites, which conform to vertical accuracy Class T-2. The map data compiled from the field survey includes features such as buildings, curb, pavement and driveway limits, tree lines, tails, walls and major visible utility structures. Topography is provided at two-foot contour intervals. In total, Freeman Cos. is responsible for surveying and mapping 109,000 Linear Feet (Hartford – 22,000 LF, Rocky Hill – 48,000 LF, Wethersfield – 39,000 LF).

Owner: Metropolitan District Commission
Client: Wright-Pierce (Prime Engineer)
Services: Land Surveying
Years Services Provided: 2014 – 2015
Prime or Sub: Sub

City of New Britain - New Britain Water Department Multiple Projects for Drinking Water System Improvements New Britain, Connecticut



CDM Smith invited Freeman Companies to provide Land Survey and Hazardous Building Materials Investigation for this major water treatment facility and system improvements project. The work involved the replacement of SCADA at the New Britain Filtration Plant, the White Bridge Raw Water Surface Supply (Pond) Station electrical, mechanical and SCADA improvements, the redevelopment of Lower White Bridge Well Field, and water main improvement on Batterson Park Road in Farmington. For these projects, the Prime Engineer was responsible for planning, design, architectural, construction oversight, and other related engineering services including the preparation of preliminary engineering reports (PER) for each project that met the CT State Department of Public Health (DPH) guidelines.

Freeman Companies' scope involved five (5) major components:

Whitebridge Pumping Facility (2.3 Acres) – Limited Boundary and Topographic Mapping

Upper Whitebridge Well Field (10 Acres) – Topographic Mapping

Lower Whitebridge Well Field (11 Acres) – Topographic Mapping

Stream Sections (Up to 20 Cross Sections along Copper Mine Brook, Negro Hill Brook, and Polkyville Brook)

Comprehensive program of Hazardous Building Materials Investigations for the older facilities involved in the upgrades. The HBMI work focused on the presence of asbestos, lead, and PCBs.

Owner: City of New Britain – New Britain Water Department

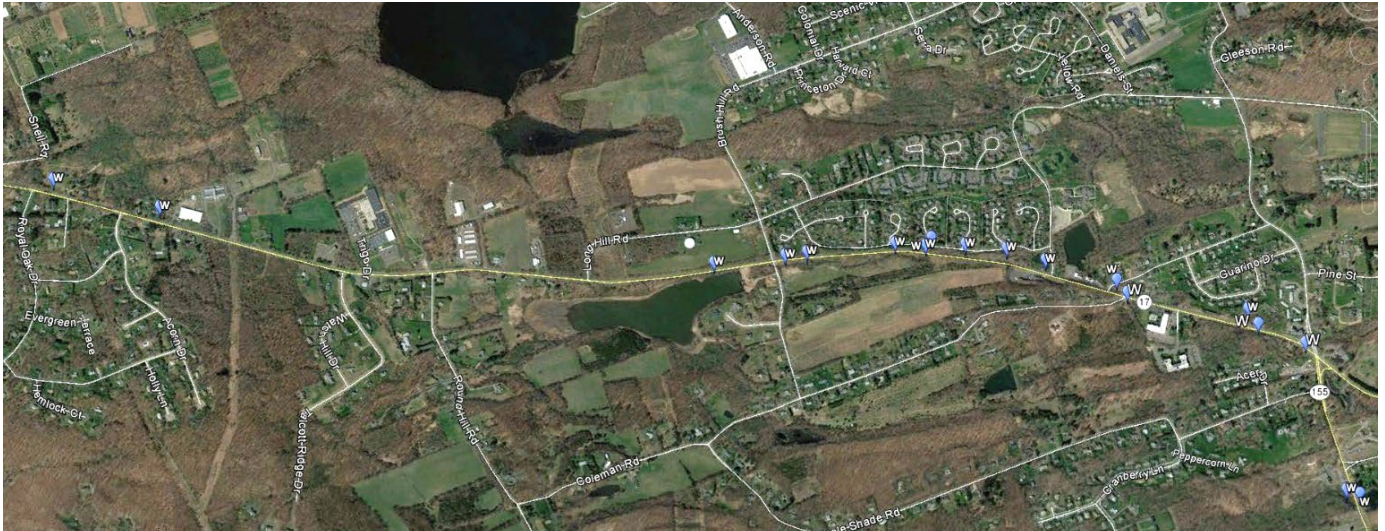
Client: CDM Smith (Prime Engineer)

Services: Land Survey and Hazardous Building Materials Investigation

Years Services Provided: 2019

Prime or Sub: Sub

EVERSOURCE : Wallingford to Middletown Resiliency Project ("Phase 1" Wallingford, Middletown and Durham) Wallingford and Durham, Connecticut



The first phase of the 16-mile Wallingford to Middletown Resiliency Project is located along a 5.5± mile route from Wallingford near the intersection of Route 68 and Route 150 to the Route 68 and Route 157 intersection in Durham, Connecticut. The route included a bridge crossing over the Quinnipiac River, three railroad crossings, and a bridge over I-91.

Freeman Companies was responsible for design of the 5.5± mile line assignment; using Eversource Design Standards and Typical Details; compilation of available GIS, aerial and other mapping; weekly project meetings with the Client, and identification/avoidance of any potential conflicts with utilities, town projects or paving scheduled concurrent with the proposed line assignment construction.

Submitted at 30%, 80% and then final prints, Freeman Companies delivered a complete set of bid documents for permitting and contractor bidding with details for the installation, including tie-in detail, conservation details, termination details and other critical details in only six (6) weeks and has received high marks for completeness and accuracy of the documents from both Eversource and invited bidders.

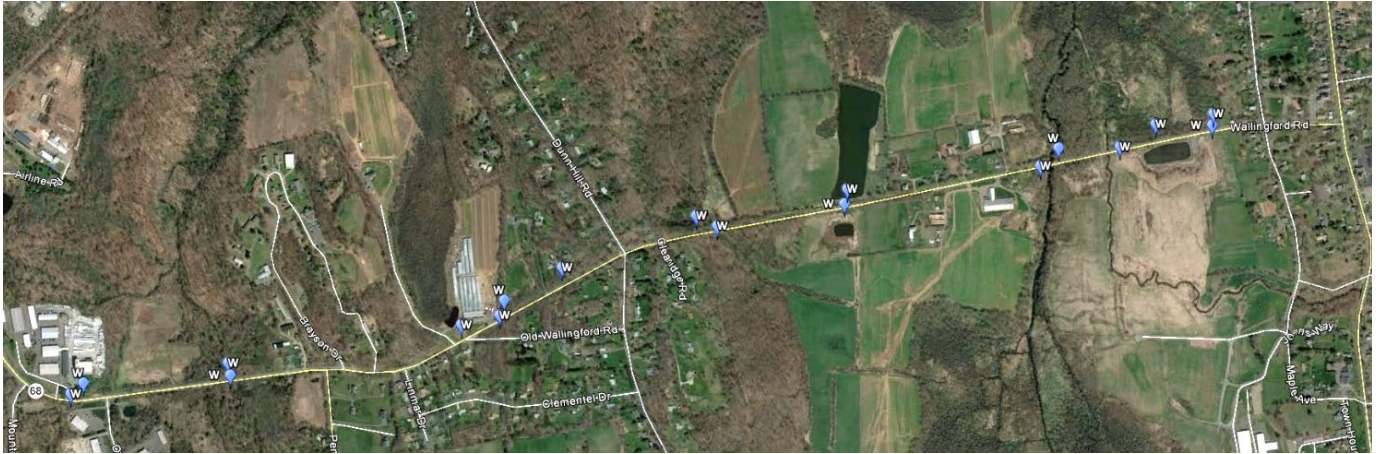
Owner/Client: EVERSOURCE

Services: Civil Engineering for Gas Line Assignment, Permitting, Maintenance and Protection of Traffic

Years Services Provided: 2017

Prime or Sub: Prime

EVERSOURCE : Wallingford to Middletown Resiliency Project ("Phase 2" and "Phase 3") Middletown to Durham, Connecticut



The Freeman Companies personnel that performed Phase 2 and 3 design are the same individuals that performed similar work for Phase 1 of Eversource's Wallingford to Middletown Resiliency Project. Phase 1, constructed in 2018, represents a 5.5± mile route from Wallingford into Durham. The work of these Freeman Companies professionals was recognized by Eversource and invited bidders for its completeness and accuracy. Design and documentation of the 5.5± mile route was completed within 6 weeks, in compliance with the client's objectives for a fast track design. Both Phases of this project will focus on the Wallingford to Middletown route, with Freeman Companies' continued assistance to Eversource in the design of a natural gas distribution pipeline that will be constructed in the public right of way along the roadway.

Phase 2 originates at the existing pipeline on River Rd. and Silvermine Road in Middletown. The new pipeline will run southerly on Silvermine Road to Bartholomew Road to the intersection of Bartholomew Road, Saybrook Road, and Randolph Road in Middletown. From this intersection, the pipeline will run westerly on Randolph Road (Route 155) to South Main Street (Route 17), Middletown. The final leg of the Phase 2 pipeline will run southwestly along South Main Street where South Main Street becomes Main Street (Route 17), Durham, and terminates at the intersection of Main Street and Wallingford Road (Route 68) in Durham.

The Phase 3 pipeline will run east/west to connect the Phase 2 pipeline at Main Street and Wallingford Road, Durham to the intersection of Wallingford Road and Skeet Club Road (Route 157), Durham and tie into the previously installed Phase 1 16-inch pipeline. Scope of work includes preparation of base maps, collection of data, drafting, designing and other details as necessary to develop "Approved for Construction" drawings to obtain approval from CTDOT and municipal authorities for both excavation and bridge permits. Additionally, Freeman Companies is also responsible for line assignment route development, bridge/culvert designs, gas pressure radiator station requirements, and remote shut-off valve installation.

Freeman Companies' basic approach to this gas main design project is to work closely with Eversource Energy to understand its specific needs and objectives, preparing a series of increasingly complete design drawings for review and acceptance by Eversource. The result will be approved construction drawings for excavation and bridge permits, and for use by contractors to bid and construct the 10.5 mile pipeline.

Phase 2 construction began in the Spring of 2018, where crews installed about eight miles of line from Middletown south along Route 17 to the intersection with Route 68 in Durham. Phase 3 construction was slated for Spring of 2019 and will complete the link-up of the two natural gas pipelines to fully connect the Wallingford to Durham pipeline.

Owner/Client: EVERSOURCE

Services: Civil Engineering for Gas Line Assignment, Permitting, Structural Engineering, Maintenance and Protection of Traffic

Years Services Provided: 2017 - 2018

Prime or Sub: Prime

**EVERSOURCE (formerly Yankee Gas Services Company):
State, Municipal and Utility Coordination/Municipal Liaison Services for Bare Steel/Cast
Iron Replacement Program
71 Service Towns throughout Connecticut, Connecticut Department of Transportation and
Amtrak**



As a result of a federal initiative to reduce risks associated with operating a gas distribution system and as part of a recent rate case requirement in which the Public Utility Regulatory Authority (PURA) mandated that Yankee Gas (now EVERSOURCE) aggressively remove aging infrastructure, the utility has invested in an ambitious fifteen year replacement plan for all of its bare steel and cast iron gas mains throughout Connecticut - approximately 520 miles of main - and Freeman Companies is acting as EVERSOURCE's liaison for the Program.

In order to minimize customer inconvenience, expedite the replacement process and minimize costs, close coordination between EVERSOURCE and each municipality has been paramount; Freeman Companies has been scheduling and coordinating meetings with all stakeholders from each of the affected municipalities and public agencies (Municipal Officials, Public Works, Engineering, Local Utility Departments, etc.) and has documented and mapped all current and future roadway paving/reconstruction plans as well as other anticipated capital improvement projects that will/may be effected by the replacement program. This information has allowed EVERSOURCE and each respective municipality to coordinate work and to prioritize their replacement/road improvement schedules in an effort to minimize local roadway disturbances.

In addition, Freeman Companies has also been responsible for obtaining all Town Construction Standards/Details. The ultimate goal of this program is development of a replacement schedule that minimizes the inconvenience to residents and roadway impacts by coordinating roadway reconstruction and maximizes efficiency in the construction process. The City of Waterbury is a participating municipality in the program.

Owner/Client: EVERSOURCE
Services: Construction Coordination
Years Services Provided: 2012-2014; Contract Renewal 2015-2017
Prime or Sub: Prime



United Illuminating – Central Facility Orange, Connecticut



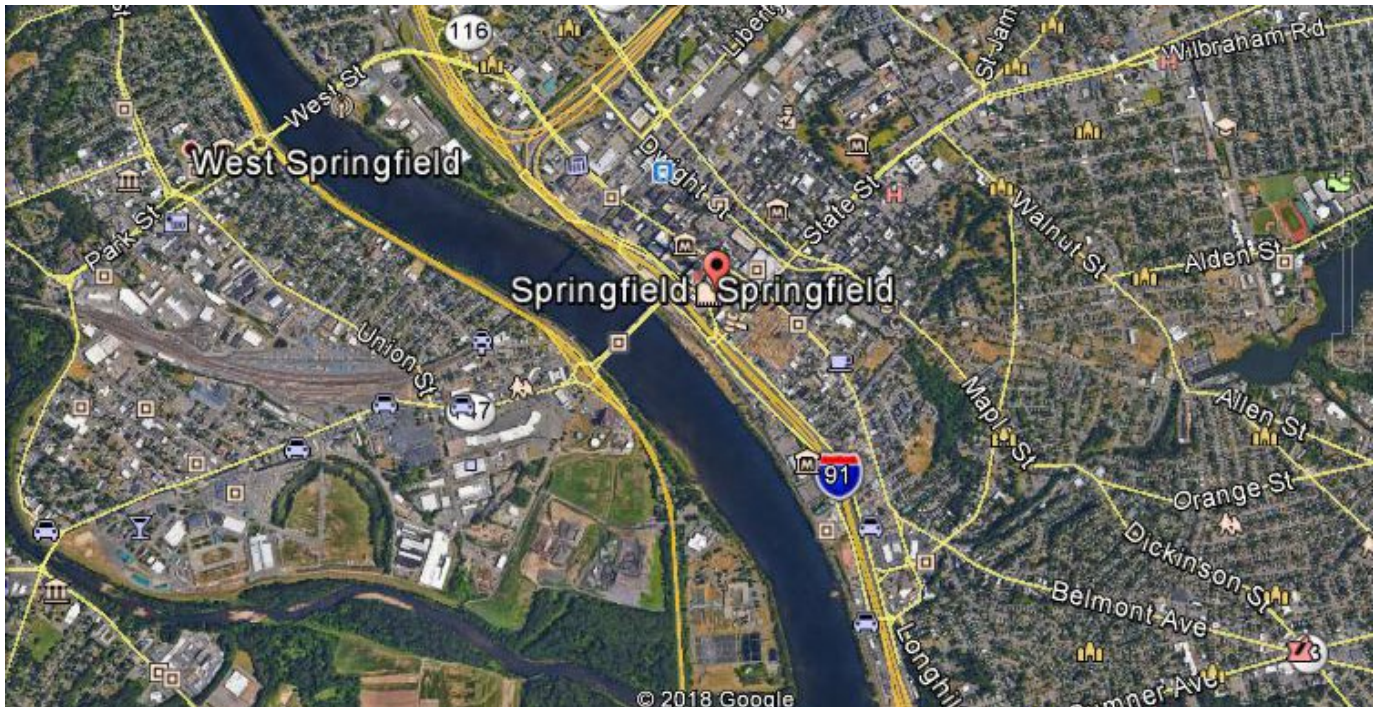
Freeman Companies' Director of Geotechnical Engineering Nate Whetten, while employed by GEI, provided Technical Review for geotechnical engineering services including subsurface explorations, engineering design, preparation of geotechnical design recommendations, preparation of geotechnical project specifications, and construction services for UI's important new Central Facility.

The Central Facility includes a new Corporate Office Building, Operations Center and comprehensive support facilities totaling approximately 333,750 SF and houses 1,270 employees and 8 contractors. This project is the culmination of a plan to consolidate and centralize the operations for the United Illuminating Company (UI) to improve efficiency and better serve UI customers.

The new Central Facility is distributed over two adjacent sites. The 188,500 SF Operations Center and 17,250 SF Vehicular Maintenance Facility site is roughly 35 acres and located in close proximity to the interstate. The site for the new 128,000 SF office building is roughly 21 acres and is separated from the Operations Center by a hotel and restaurant property. This minor segregation allows the Operations Center, with its industrial functions, round the clock schedule and site storage requirements to operate more effectively and with no disturbance to the office and public functions of the facility. Through creative land planning the design team was able to resolve complex vehicular patterns, topographical conditions and zoning requirements.

Mr. Whetten supervised test pits, test borings with rock coring, and auger probes to investigate the subsurface conditions. Soil and boulder fill, glacial till, and bedrock were encountered. Shallow foundations were designed to bear on bedrock, and rock anchors were used to resist uplift loads. In areas of deep soil fill, dynamic compaction was conducted to render the soil fill suitable for support of shallow foundations. Proofrolling and dynamic compaction were used to prepare pavement subgrades. Cost saving strategies involved the utilization of dynamic compaction as an alternative to excavation and replacement of loose fill, and concrete rubble was reused as fill, an alternative to removal and replacement of the rubble.

Columbia Gas of Massachusetts: Master Service Agreement Underground Infrastructure Investigations Springfield, Massachusetts



Columbia Gas of Massachusetts is actively replacing leak prone gas distribution facilities throughout its service territory under the Massachusetts Department of Public Utilities' authorized Gas System Enhancement Program. Key to the efficient utilization of its contractor resources, CMA requires detailed understanding of the location of underground infrastructure in order for them to identify the best location for their new distribution facilities. CMA has entered a Master Service Agreement (MSA) with Freeman Companies to provide detailed engineering of several streets in the City of Springfield identifying underground water, sewer, drainage, electric, gas, telecommunications, and any other underground infrastructure in order to facilitate the location of their new facilities.

Freeman Companies' efforts, to the best of its ability and based on record information, will identify all existing utilities and structures within the right of way, including but not limited to gas, sewer, water, drainage, traffic loops and appurtenances, telephone and electric poles and numbers, electric pole risers, and underground telephone and communications; will establish approximate depth of cover for drainage and utilities from record information, field observations and investigation along the identified route; will travel the identified streets by driving and walking various portions of the route as determined appropriate in the field, intending to get complete coverage. Photo documentation will be included as part of the investigation and analysis of the route. Through discussions with Freeman Companies, Columbia Gas revised their requirement for utility mark-outs, as follows: Perform utility mark-out services for only the street intersections identified in a MSA Task Order; Mark-outs shall include only Electric, CATV, Telephone, and Street Lighting; Mark-outs shall only include those utilities in the public right of way; and Mark-outs shall include 150 feet in either direction of all intersecting streets. The existing conditions plans include utilizing existing mapping sources such as GIS, utility mapping and aerial mapping as well as others that may be readily available. Freeman Companies' drawing sets of plans in 1" = 40' scale submitted in .dwg and PDF format.

As of November 2019, Freeman Companies has performed investigations on 40 streets involving multiple intersections.

Owner/Client: Columbia Gas of Massachusetts

Services: Subsurface Infrastructure Studies, Traffic Plans, Maintenance and Protection of Traffic

Years Services Provided: 2018 - Ongoing

Prime or Sub: Prime

UCONN: “On-Call” Contract: Connect Engineer I, II, III & UTEB to Central CHW System Storrs, Connecticut



Freeman Companies, in collaboration with MEP Engineer CDM Smith, is developing a conceptual design and cost estimate for extending the campus central chilled water system piping to serve the following four existing engineering buildings: the Castleman Building (Engineering I), the Engineering II Building, Bronwell Building (Engineering III), and the United Technologies Engineering Building (UTEB), located on the Storrs Campus. Work involves performance of a

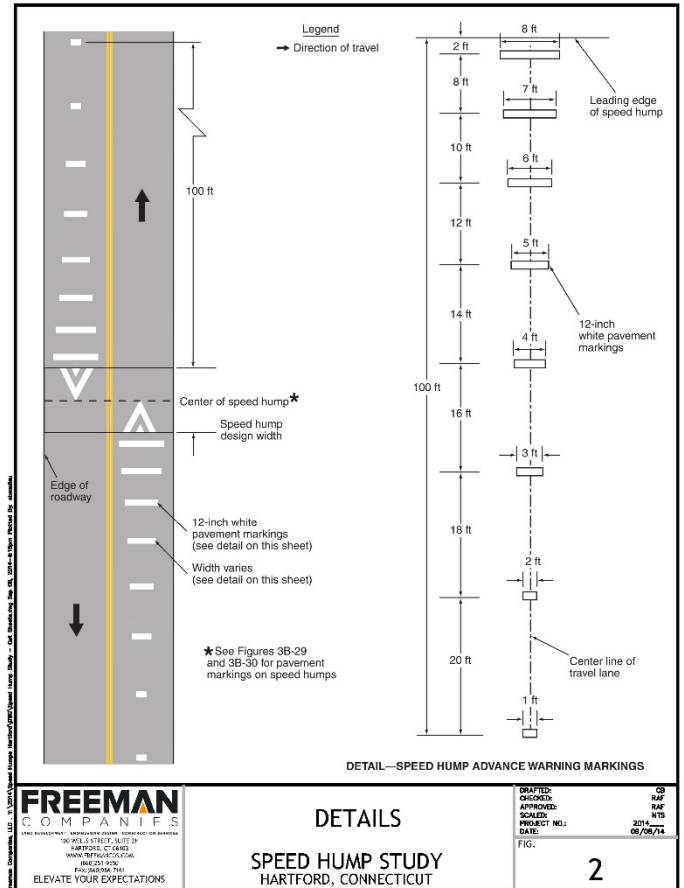
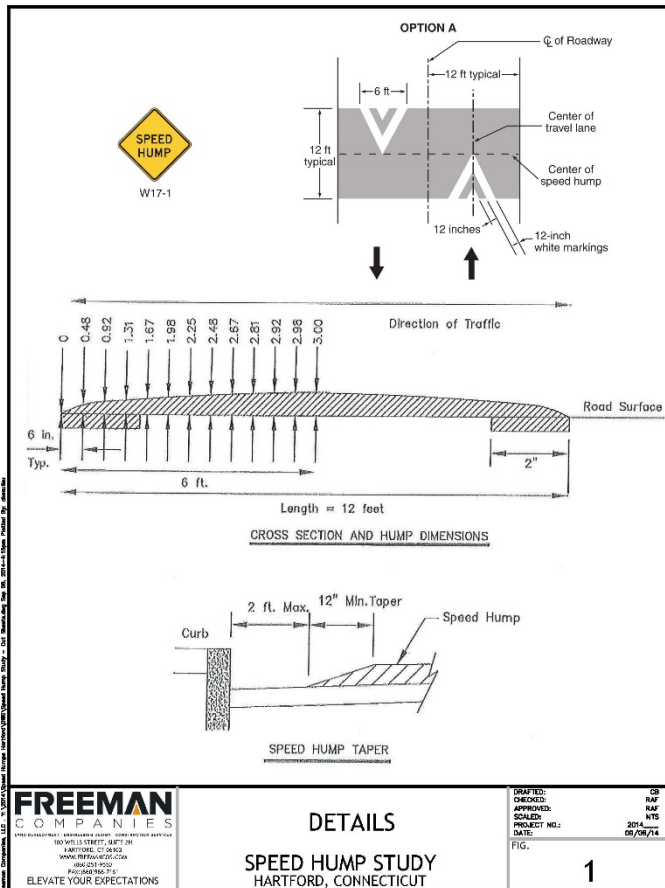
utility survey including a ground penetrating radar survey to identify the most economical route for the extension of the existing central chilled water lines to the four buildings; preparation of a schematic drawing showing the proposed routing, with all surface features, contour lines, and the locations and depths of existing utilities; preparation of a cost estimate for the required underground utility work; mechanical engineering concepts and a schematic design for a project that would modify the existing HVAC systems so that they can use the central chilled water system; development of concepts to provide air conditioning for areas that don't currently have it; schematic drawings and a cost estimate for HVAC work. Investigation/Schematic/Design/Survey/Cost Estimate were provided to the University in mid-December 2015, in compliance with the 120 calendar day project schedule. Detail on major work tasks included



- Obtain available existing utility plans and other information from UCONN, other consultants and local utility providers. Investigate the existing infrastructure and discuss the project needs with the office of PAES. The existing utility data will be incorporated into the base plan to the extent possible. Utility areas required field verification/location will be highlighted and project constraints will be documented. Estimated chilled-water flow for the proposed project will be based on the existing building program and loading to be provided by UCONN.
- Prepare a Compilation Plan of the utilities and infrastructure within the subject site. The plan will conform to Class D accuracy. The survey will be compiled from other maps, research, or other sources of information.
- Prepare up to two (2) conceptual plans that show the best potential routes to run the chilled water lines. In general, the goal will be to minimize impacts to other utilities and the surrounding areas to remain cost effective. The concept plans will be used for initial project costing efforts, and to conduct detail field survey and GPR work.
- **Schematic Utility Layout:** Prepare one (1) schematic layout plan that shows the potential layout of the chilled water lines on the site to best suit UCONN's needs. In general, the goal will be to minimize costs and utility/infrastructure impacts. These plan will be of sufficient detail, and be used, for project costing efforts impact assessment. The concept plans will be used to facilitate utility and construction discussions and development program loads.
- **Conceptual Utility Profile:** Prepare a profile of the chosen route that shows subsurface utilities and finish grades.
- **Preliminary Opinion of Probable Cost:** Utilize the schematic plan, as selected, to prepare an Opinion of Probable Construction Cost for the work. This Opinion of Probable Cost should not be considered the actual cost of construction for the site and is intended to provide a general understanding as to the potential construction costs associated with the project.
- **Project Engineering Report:** Prepare a Project Engineering Report summarizing the proposed findings, including: assumption, the necessary chilled water computations to size pipes/structures, Operation and Maintenance Plan, and cost details.
- Analyze potential ventilation and air conditioning solutions for the areas that currently do not have mechanical heating and cooling. Perform calculations to size any needed pumps, heat exchanges, and air handling equipment.
- Prepare a basis of design report which will include system concept and schematic layouts based on existing drawings showing the demolition and new work required to utilize central chilled water for the existing HVAC systems. Generate system concepts to air condition spaces within the building that are not currently conditioned. Prepare Estimates of Probable Construction Cost base on UCONN standard requirements.

Owner/Client: UCONN
Services: Land Survey, Site/Civil Engineering, Geotechnical Engineering
Years Services Provided: 2015
Prime or Sub: Prime

City of Hartford: "On-Call" Contract: Permanent Speed Humps Installation/Traffic Calming (funded by the Connecticut Department of Economic Development) Hartford, Connecticut



As part of its On-Call Engineering contract with the City of Hartford, Freeman Companies was chosen to assist the Department of Public Works with the installation of 33 speed humps at 17 locations within the City. The work required a comprehensive approach to evaluation and timely execution, as it was a very important project for the neighborhoods, championed by Senator John W. Fonfara with funding from the Connecticut Department of Economic Development.

The scope of work consisted of: Provision of all field work services and design services related to recommendations and design of temporary and permanent speed humps city wide and the construction inspection thereof. Freeman Companies' work involved:

- 1) Identification of the streets considered for the installation of temporary / permanent speed humps on GIS, Google Maps and any other documentation and field check by driving on that street to determine if it is feasible to consider a possible installation of speed humps. Provision of a preliminary letter report.
- 2) Initiation of a traffic counts and speed data to determine if a temporary / permanent speed hump or other traffic calming means are necessary. Provision of the results of this traffic count and a recommendation if speed humps are required.
- 3) If temporary or permanent speed humps were determined necessary or ordered by the City regardless of the traffic count results, provision of the exact locations (center line of the speed hump) related to house number and utility poles and mark the location on the pavement. Provision of the location of the traffic signs required to locate the speed hump including all required warning signs. Provision of details and recommendations for the type of paving markings necessary for these speed humps (temporary and or permanent). Submission of a letter report to include all work conducted.
- 4) Provision of final inspection and reporting back to ensure the installation was performed in accordance with the Consultant recommendations. Freeman Companies completed field checks to make certain that all features were installed in accordance with the recommendations.

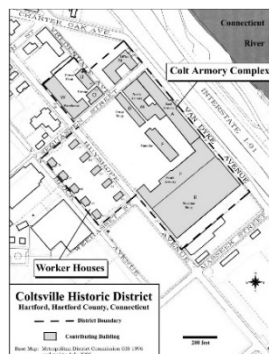
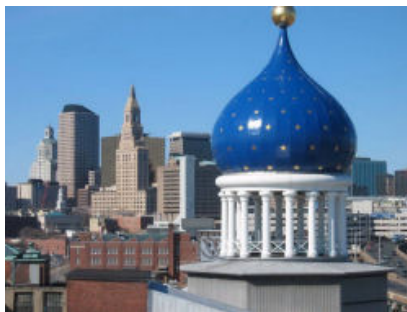
Owner/Client: City of Hartford

Services: Land Survey, Civil Engineering, Construction Administration

Years Services Provided: 2014

Prime or Sub: Prime

City of Hartford: Coltsville Corridor Streetscape Improvements (Phase I) Hartford, Connecticut



Freeman Companies, LLC provided Construction Inspection services to the City of Hartford for the Streetscape Improvements for the Coltsville Corridor Phase I project located along the Right-of-Ways of Huyshope Avenue, Van Dyke Street and Sequassen Street.

The Streetscape project surrounds the 17-acre Colt property and historic Colt Armory Complex. The City has an agreement with CTDOT to provide funding for this project pursuant to State Project # 63-626. As such, technical standards are in accordance with State DOT requirements as a condition of the funding agreement.

The project includes improvements to streets and right-of-way (ROW) surrounding and north of the Colt Property, as well as the installation of ornamental light poles, trees, installation of granite curbing, concrete and brick paver sidewalks, drainage upgrades (catch basins and drain lines), utility improvements, and milling and paving.

The \$ 4 Million project is 3600 linear feet in length. Work commenced in the summer of 2014 and was complete in 2015.

Owner/Client: City of Hartford
Services: Construction Inspection
Years Services Provided: 2014 – 2015
Prime or Sub: Prime

Town of Cromwell: State Project No. 33-129: Reconstruction of Willowbrook Road Cromwell, Connecticut



Freeman Companies is providing Construction Engineering and Inspection, as well as Civil and Geotechnical Engineering Services for the final design of drainage improvements for the Reconstruction of Willowbrook Road.

The preliminary design was completed and the project was slated for construction funding under the STP-Urban Program administered by the Connecticut Department of Transportation.

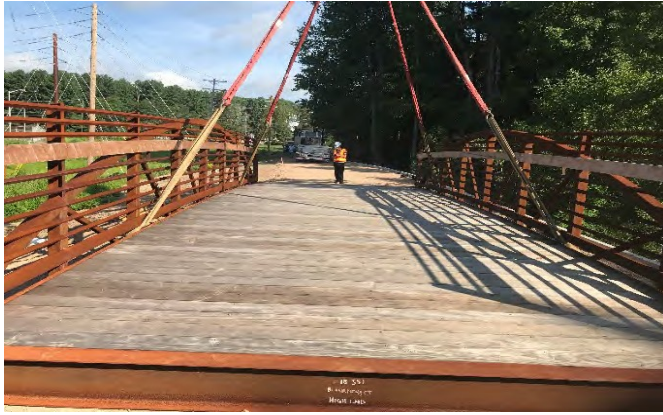
Approximately 1,800 feet of Willowbrook Road from Route 372 north to just past Eastview Drive will be reconstructed with a typical section of two 11 foot lanes with 4 foot shoulders. Improvements will include filling the sag vertical curve located just north of Route 372, widening Willowbrook Road at its intersection with Route 372 to provide a two lane southbound approach, and the inclusion of sidewalk along the length of the improvements. Existing on-street parking will be assessed to determine if it is feasible to relocate onto private property. In addition, the 24" cross culvert located under Willowbrook Road approximately 1,100 feet south of Evergreen Road will be replaced. Other drainage improvements include the maintenance and possible repairs to existing drainage outfalls along the project limits.

Final design documents have been prepared in accordance with applicable sections of Chapters 304 and 700 of the Consultant Administration and Project Development Manual and applicable sections of the Bridge Design Manual.

Owner/Client: Town of Cromwell
Services Provided: Geotechnical Engineering, Civil Engineering, Construction Engineering and Inspection
Years Services Provided: 2015 - Present
Prime or Sub: Sub

Town of Bloomfield: State Project No. 11-152: Greenway Multi-Use Trail – Section 1

Bloomfield, Connecticut



The Bloomfield Greenway Multi-use Trail Project is funded by Federal STP funding through the Capital Region Council of Governments (CRCOG). It serves as a key component for the multi-use trail system for the East Coast Greenway. It consists of approximately 1.8 mile segment of paved 10-12 foot wide recreational trail within the Town of Bloomfield roughly bounded by the Simsbury Town line to the west and the Windsor Town line to the east. The trail begins along the Northeast Utilities right-of-way roughly 600 feet south of the corridor's intersection with Route 189 and follows the utility corridor along a wooded slope. After emerging into open field, the trail crosses Tariffville and Hoskins Roads at the site of Old St. Andrew's church.

Along the trail there are divider striping and traffic calming measures at street intersections, shared and dedicated parking areas for trail and adjacent site users, a pre-fabricated steel bridge structure at the Griffin Brook crossing, modular retaining walls, protective fencing, landscape screening as well as signal modification at the intersection of Route 189 (Tunxis Avenue) at Day Hill Road.

Freeman Companies is serving the Town of Bloomfield with Construction Inspection and Administration services on this project which involves construction of approximately two miles of paved multi-use trail in northern Bloomfield.

Scope of work for Construction Inspection and Administration Services includes:

- Record keeping in accordance with the CTDOT Four-Book System
- Material Testing in accordance with Schedule of Minimum Testing
- Utility Coordination Meetings
- Preconstruction Meeting
- Progress Meetings
- Computations and Quantity Summaries
- Verification of Contractor Invoices/Payments to the Contractor
- Payments to Consultants and Materials Testing Services
- Change Orders and Extra Work
- Schedule Adherence
- Semi- Final and Final Inspections
- Project Close Out

To ensure Quality Work, all inspection work will be in accordance with, Contract Plans and Technical Special Provisions, CTDOT Form 816, the Municipality Manual, and the CTDOT Office of Construction. Construction commenced in the summer of 2018.

Owner/Client: Town of Bloomfield

Services: Construction Inspection and Administration

Years Services Provided: 2016-Present

Prime or Sub: Sub

Town of Brookfield: Streetscape Phase 2 South Brookfield, Connecticut



Freeman Companies is providing complete and comprehensive consulting, engineering, and design services for the procurement of permits and preparation of Contract Documents (plans, specifications, and estimates) for the design of the Streetscape Phase 2 South project in Brookfield, Connecticut.

The Town of Brookfield is located in northern Fairfield County with a population of approximately 17,000. In 2015 the Town updated its Plan of Conservation and Development (POCD) to include a Revitalization Plan for the Four Corners area of the Town Center District (TCD) which is listed as a high priority project for the Town. The Plan calls for sidewalk and roadway improvements, including sidewalk lights, benches and a bicycle path, all to encourage pedestrian traffic, increased safety, and to attract commercial and residential development. Phase I of the Streetscape Project was approved by CTDOT and construction was completed in 2017.

The Streetscape Project Phase 2 South is an extension of Phase 1, south on Route 202 and includes the following:

- A sidewalk and bike path design consistent with Phase 1 approximately 900 feet south, on both sides of State Route 202, from the end of Phase 1 construction to the intersection at Old Route 7.
- Parallel road parking will be maximized.
- A mid-block crosswalk that will provide access and connect the Still River Greenway Trail to the sidewalk and bike path on the west side of Route 202.



Other elements include stormwater updates, street trees, utility relocation, and performing design services during construction such as shop drawing review, change order preparation, and design revisions.

Due to the tremendous success of the project and interest in the area from multiple developers, Freeman Companies was asked by the Town to prepare conceptual plans for Phases 3 and 4.

Owner/Client: Town of Brookfield
Services Provided: Land Surveying, Roadway Design, Landscape Architecture, Civil Engineering
Years Services Provided: 2017-2019
Prime or Sub: Prime



Town of Brookfield: Streetscape Phase 3 Brookfield, Connecticut



Freeman Companies recently completed the Streetscape Phase 2 project that included a sidewalk and bike path design on both sides of State Route 202, from the end of Phase 1 construction to the intersection at Old Route 7; the maximization of parallel road parking; and a mid-block crosswalk that will provide access and connect the Still River Greenway Trail to the sidewalk and bike path on the west side of Route 202. Other elements included stormwater updates, street trees, utility relocation, and performing design services during construction such as shop drawing review, change order preparation, and design revisions. Due to the tremendous success of the project and interest in the area from multiple developers, Freeman Companies was asked by the Town to prepare conceptual plans for Phases 3 and 4. Freeman Companies has been awarded Phase 3.

Brookfield has been awarded a \$1.06 million grant to build Phase 3 of the Streetscape project. It is planned for Laurel Hill Road and Old Route 7. Construction is planned for spring of 2021. This phase will include streetscape improvements, bus shelters that will be added for riders waiting for HARTtransit buses, adding sidewalks on Laurel Hill Road where pedestrians, such as the tenants in the Laurel Hill Apartments, walk, and a "pocket park" with ornamental trees and benches and upgrades to driveways on Old Route 7 and Laurel Hill Road.

Phase 3 will be an extension of the work completed by Freeman Companies during Phase 2.

Owner/Client: Town of Brookfield

Services Provided: Land Surveying, Roadway Design, Landscape Architecture, Civil Engineering

Years Services Provided: 2019

Prime or Sub: Prime

City of Hartford and the Greater Hartford Transit District: FTA TIGER IV GRANT

The iQuilt Project – Hartford Intermodal Triangle

Bushnell Park North Hartford, Connecticut



Union Place, Bushnell Park North, and Asylum/Pearl/Statehouse Square comprise the three major TIGER-funded roadway projects called the "Hartford Intermodal Triangle": a comprehensive urban vision for a progressive, and economically vital, city center in Hartford. Freeman Companies has been involved in each of these roadway projects in varying capacities: the firm provided land surveying, civil engineering and geotechnical engineering services to the Prime Engineer for the development of Bushnell Park North; full site and roadway design for the Reconstruction of Union Place (on which the firm is also currently performing Construction Engineering & Inspection services for the City); and also current, Construction Inspection services for the City for the completion of State House Square construction. For the overall Intermodal Triangle Initiative, Freeman Companies also acted as "Survey Project Coordinator" for the City with the responsibility of establishing the survey control for the entire, downtown Hartford project area. Construction Cost: \$ 24 Million (3-Project Initiative); All projects were FTA, STP-Urban Livability Grant funded and administered by the Greater Hartford Transit District as well as the City of Hartford. These projects are on an extremely tight schedule – in compliance with FTA requirements – and will be completed in 2015-2016. Mayor Segarra has remarked "Through transit hubs and corridors, the Hartford Intermodal Triangle will strengthen the Capital Region's economic and employment core by improving pedestrian and vehicular connections within the Unions Station-to-Main Street triangle."

Bushnell Park North - Complete Green Street: Freeman Companies provided land surveying, civil engineering, and geotechnical engineering services to the Prime Engineer for the development of Bushnell Park North, the Initiative's centerpiece project. Bushnell Park North, the new name for the collection of Asylum, Ford, Jewell, Trumbull, Wells and Gold Streets, is rebuilt as a vibrant, sustainable, and cohesive boulevard along the northern edge of historic Bushnell Park, from Union Station to Main Street. The existing median is removed and the street significantly narrowed and re-striped for traffic calming. New traffic signals are constructed at Pearl and Ford, Trumbull and Jewell, Wells and Gold, and Main and Gold Streets. Roadway and sidewalk lighting, way finding signage, crosswalks, sidewalks, new street trees, landscaping, park benches and park walls are installed, greatly enhancing the pedestrian experience.

Freeman Companies was responsible for preliminary design for the realignment of Gold Street, as part of the development of the iQuilt plan. By moving Gold Street closer to Bushnell Tower, a new, 1.5-acre park area is created that would include greenhouses, outdoor meeting areas, benches and a cafe. Further, with realignment, Gold Street's western end coincides approximately with Bushnell Park's Hoadley Gate. Gold Street would become narrower, resembling a residential street. Streets would be similarly narrowed to Pulaski Circle, with landscaping improvements. In 2012, Freeman Companies, LLC provided geotechnical evaluation of the Gold Street realignment. The work included conducting a program of subsurface explorations, laboratory soil testing, and preparing geotechnical design and construction recommendations for the proposed realignment. In 2013, Freeman Companies provided geotechnical evaluation of the realignments of nearby Asylum, Ford and Jewell Streets, located adjacent to Bushnell Park. The evaluation included design of new signals at intersections, a program of subsurface explorations, laboratory soil testing, additional engineering evaluations, and geotechnical design and construction recommendations. Construction was complete in early 2016 on this major step in making the City's center ("the Intermodal Triangle") more easily navigated by pedestrians, cyclists and those who ride the bus.

Owner: City of Hartford

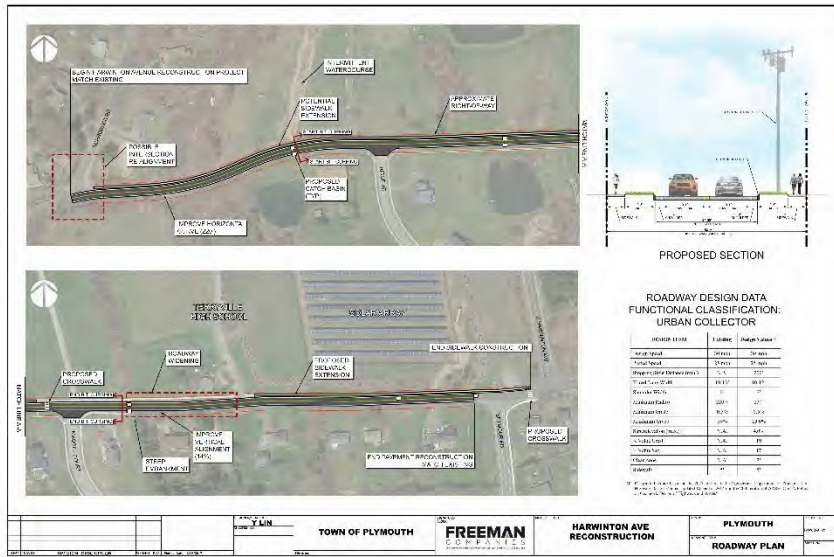
Client: BETA Inc.

Services Provided: Land Surveying, Civil Engineering, Geotechnical Engineering

Years Services Provided: 2013-2016

Prime or Sub: Sub

The Town of Plymouth: Reconstruction of Harwinton Avenue Plymouth, Connecticut



The Town of Plymouth selected Freeman Companies for the reconstruction of Harwinton Ave in the village of Terryville. This project will include roadway and storm drainage redesign of approximately one-half mile of roadway on this countryside connector. Design considerations include improvements of the sidewalks and horizontal alignment between Schroback Road and Ridge Road, improvements of the vertical alignment between Maggie Court and Seymour Road, traffic calming, street lighting, and guiderail repair, replacement, and installation.

At the cross culvert at the brook location, we proposed rip rap to the roadside swale on the north side of road. Moving to the east, this location requires replacing both catch basins and the culvert on the north side. Installation of larger pipe, some rip rap, bituminous curbing on each side, and an extension of the curbing to just above Maggie Court is probable. At this location, additional catch basins on each side should be installed and connected to new catch basins in the low point. Freeman Companies would evaluate outlet to the pond for erosion and propose erosion control measures if necessary. On the east side, there should be an extension of the existing drainage system that ties into Seymour Road. Freeman Companies will install two catch basins on the curb here. One alongside the existing catch basin and one near Seymour Rd intersection.

Freeman Companies will also provide survey, soils and structural engineering, prepare environmental documents, and provide construction engineering and inspection services during construction. The construction cost is estimated to be \$2,500,000 for this LOTCIP-funded project. Freeman Companies' design team is taking special considerations to create budget conscious designs and provide bid alternatives to allow the Town to be flexible with their budget.

Owner/Client: Town of Plymouth
Services Provided: Transportation and Traffic/Safety Engineering, Civil Engineering, Environmental, Hydraulic-Hydrologic Engineering, Geotechnical Engineering, Land Survey
Years Services Provided: 2017-2020
Prime or Sub: Prime



Town of Bethlehem: Reconstruction of Woodcreek Road

Bethlehem, Connecticut



The Town of Bethlehem is defined by its small town village center, rolling hills and sinuous scenic roadways. Running from Bird Pond to State Route 109, Woodcreek Road is an important artery for the Town of Bethlehem providing a direct connection from the northwest sections of town to the village center. The 1.3 mile section of the road in concern lies between the bridge over Wood Creek and the intersection of Todd Hill Road. This section of road is a two lane rural local road and is characterized by a winding horizontal alignment with some sharper curves and rolling to occasionally steep slopes. The roadway is currently in poor condition and is in need of reconstruction. Additionally, the existing drainage conditions are poor in several areas of the roadway. These conditions will have to be corrected to ensure proper operation and longevity of the new road.

Freeman Companies' approach to this roadway improvement project is to work closely with Town of Bethlehem to understand its specific needs and objectives, preparing a series of increasingly complete design submissions for review and comment by the Town. The result is a constructible, long-lasting and cost-effective solution for the Town of Bethlehem. To study the site Freeman Companies' core project have identified several key issues affecting the success of the project's outcome. These key issues involve:

Construction Cost and Bid Schedule – Because the Town intends to pay for the proposed roadway reconstruction utilizing town funds exclusively, Freeman Companies is providing several bid alternatives to meet the Town's budget constraints for the Fiscal Year.

Sight Distance – Sharp curves and rolling terrain create several blind spots along the road. Freeman Companies is providing cost effective design solutions to adjust the existing alignment or implement proper traffic control devices to minimize blind spots and increase safety.

Drainage Design – There are several areas along the roadway where existing road conditions and geometry create poor drainage conditions. Freeman Companies is providing the Town with a cost effective solution to correct these poor drainage areas to extend the useful life of the proposed new roadway and protect the taxpayers' investment.

Guardrails – The current 2 cable guiderail system is deteriorating and quickly becoming an eyesore on this scenic roadway. Freeman Companies has recommended removing the existing guiderail and replacing it with a "Merritt Parkway-type" guiderail only when necessary based on the AASHTO roadside guidelines. This will better match the character of the Town and rural setting of the roadway.

Freeman Companies was also recently selected by the Town for a separate project involving the creation of a sidewalk concept plan along Route 61 on Main Street down to the intersection of Main Street and Jackson Lane. The concepts were created in order for the Town to apply for grants coordinate additional funding for the project.

Owner/Client: Town of Bethlehem

Services Provided: Transportation and Traffic/Safety Engineering, Civil Engineering, Hydraulic-Hydrologic Engineering, Geotechnical Engineering, Land Survey

Years Services Provided: 2016-2018

Prime or Sub: Prime

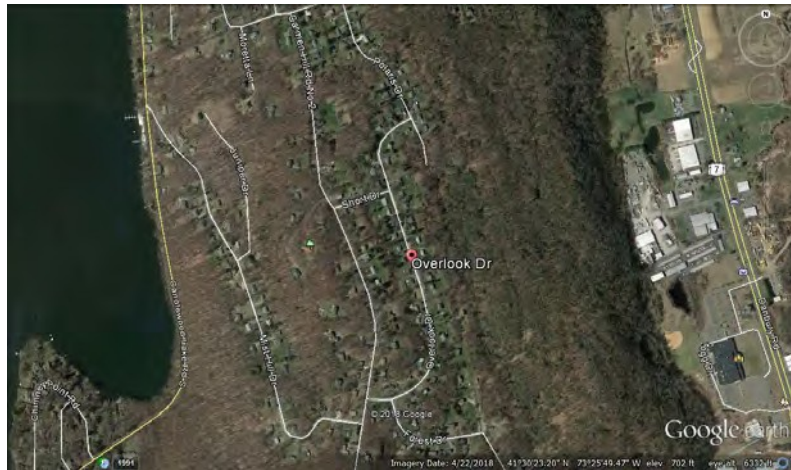


Town of New Milford Highway Department: Capital Road Improvement Project

New Milford, Connecticut



Existing Conditions



Freeman Companies provided the Town of New Milford engineering services for the reconstruction of Overlook Drive and Mist Hill Drive. Freeman Companies Manager of Traffic Safety and Transportation Engineering, Yuyang Lin, PE, PTOE served as Lead Traffic Engineer on this project.

All the roadway segments had challenging horizontal and vertical geometry with some sharp horizontal curves and occasional steep gradient. There were utility poles along the road as well as mature trees within the clear zone. Adjacent land use was primarily residential. The pavement was in poor condition and there were poor drainage conditions in many areas.

Several drainage problems threatened the project area. Saturated edges of road and roadside ditches can deteriorate the road base and can cause pumping of road base material; lack of curbing makes the road edge susceptible to raveling (slumping and failing) from vehicle loads; and no curbing creates a lack of a channelized gutter that would keep road runoff from further saturating edge of road.

Freeman Companies was responsible for providing solutions to these deficiencies. Freeman Companies installed underdrains to alleviate water pressure and help longevity of road base; installed new catch basins to capture runoff at low points and minimize localized flooding in the gutter and roadway; and installed new curbing to help channelize road runoff in gutters and convey to catch basins, help stabilize edge of road, assist with plowing and snow removal and minimize land getting plowed up. Geotechnical Engineering and Traffic Engineering service were provided by Freeman Companies.

Owner: Town of New Milford Highway Department
Services: Geotechnical Engineering, Traffic Engineering, Transportation Design
Years Services Provided: 2018-2019
Prime or Sub: Prime



City of Hartford: Traffic Control Signals and Intersection Improvements Hartford, Connecticut

In 2016, the City was awarded a major US Federal Highway Administration Congestion Mitigation and Air Quality Improvement (CMAQ) Grant to upgrade and modernize downtown traffic signals and establish a traffic control center for the downtown area. At the request of the Prime Engineer, VHB, Freeman Companies performed multiple engineering and environmental services, including Land Surveying and Basemapping of 28 Intersections (in 2017); Transportation/Traffic Signal Design for 2 intersections (in 2018); and hazardous materials surveys (known as Task 710 by the Department of Transportation), for 14 of the intersections (also in 2018). Below are descriptions of the services provided:

Land Surveying and Basemapping of 28 Intersections

Freeman Companies has provided land surveying and basemapping support to both the City and Prime Engineer for a major Traffic Signal Improvement Program within the City of Hartford's downtown area. The project entails land surveying and base mapping of 28 intersections, of which five (5) of the intersections involved State highway ramps, necessitating permitting and maintenance/protection of traffic coordination with CTDOT District 1. For each intersection, Freeman Companies provided top within 50' of the intersection and located curbing and pavement markings for an additional 150' for each approach. Measurements conformed to a class "T-2" horizontal and vertical standard as adopted by the Connecticut Association of Land Surveyors in 1996. The V-2 features located have included but are not limited to: ramps, sidewalks, curb lines, pavement, survey monuments, signs, pavement markings, street lighting, fence lines, utility poles, traffic signal equipment, and above ground utility structures. The field survey also included the plotting of visible evidence of underground utilities. Utility lines not observed in the field have been shown on the survey plans from available record plans from the appropriate utility agency. Utility information depicted on the topographic survey included: Approximate location and size of water and gas mains, steam lines, and other utilities including, but not limited to, buried tanks, vaults, etc.; Location of fire hydrants and fire department connections to buildings within the site; Approximate location of power, telephone, cable utilities, traffic signal systems, street lighting, parking area and athletic areas lighting, above and below the ground. Freeman Companies also conducted research and performed office calculations in order to plot the existing right of way boundaries at all intersections. Evidence of highway lines (monuments, pipes, fences, walls, etc.) were field measured, analyzed, and compiled with record data and depicted on the Right of Way Survey. Measurements and final mapping have been performed in accordance with a class "D" standard as adopted by the Connecticut Association of Land Surveyors. The Consultant shall provide existing conditions base plans, control points, and surface models/DTM for each project intersection at 1" = 40' scale in both AutoCAD and PDF format. The base plans were signed and sealed by a land surveyor licensed in the State of Connecticut.

Transportation, Traffic Signal Design of 2 Intersections

Freeman Companies was engaged by the Prime Engineer to assist in the design of the total replacement of traffic signal equipment at the following two intersections (out of a total of 15 intersections in the program): 1. Wethersfield Avenue at Wyllys Street and Main Street and 2. Washington Street at Park Street. The design was completed using survey base plans prepared by Freeman Companies. Both intersections were designed using mast arms with far-side signal head configuration. Freeman Companies' Transportation and Traffic Engineers completed Preliminary Design, Semi-Final Design (75%), Final Design (95%) and Construction Documents (100%). Deliverables in each phase included Response(s) to Comments, Design Traffic Control Signal Plans, Mast Arm Plan and Profiles sheets, and Cost Estimates. Plans of each traffic control signal plan were prepared in accordance with the guidelines contained in the CTDOT Division of Traffic Engineering "Traffic Control Signal Design Manual". Tasks involved field observations and compilation of local condition data for each intersection, including: lane configuration, sight lines (turning and approach); turn restrictions; parking restrictions; bus stops; pedestrian controls; signing by location size, condition and type (regulatory, warning, informational, wayfinding, school, etc.); and field checking of the location and condition of traffic signal equipment, sidewalk ramps and driveways.

Hazardous Materials Surveys (CTDOT Task 710) for 14 Intersections

Traffic signal and pedestrian equipment impacted by this project (caulk, paints, etc.) were suspect to contain hazardous constituents such as lead and asbestos. As a result, the Prime Engineer and CTDOT asked Freeman Companies' environmental and hazardous materials specialists to conduct hazardous materials surveys (known as Task 710 within CTDOT).

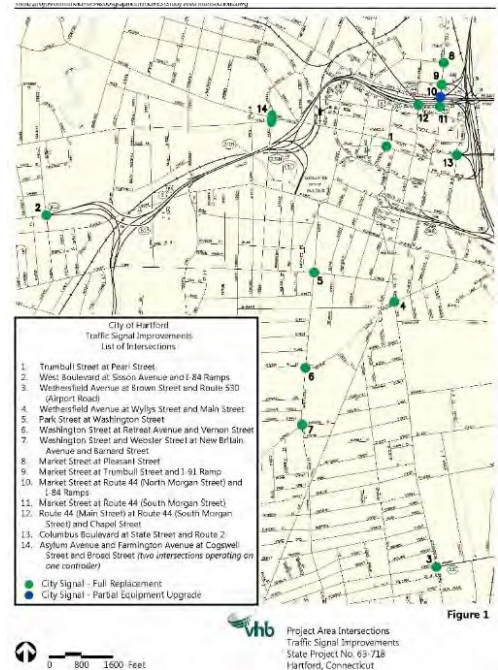
Owner: City of Hartford

Client: VHB (Prime Engineer)

Services: Land Surveying, Transportation, Traffic Signal Design, Hazardous Materials Survey (CTDOT Task 710)

Years Services Provided: 2017 – Present

Prime or Sub: Sub



Connecticut Department of Transportation: Federal Local Bridge Program: Bridge and River Surveying for Bridge Replacements Various Municipalities throughout Connecticut

Freeman Companies, LLC collaborated with the Prime Engineer to provide Bridge and River Surveying to 5 Federal Local Bridge projects. Bridge and River Survey Scopes included: Oversight and Administration of Initial Survey Work; Field Visit – Coordination of Hydraulic Stream Sections/ Horizontal/Vertical Site Control; Site Area Baseline and Horizontal/Vertical Control Points; Research of Records for Deed and ROW; Location of Field ROW Evidence; Research of Records for Utilities; Roadway Topo-Field Work; 50' & Critical Road Cross Sections; Bridge (Structure) Measurements & Detailing; Under-Bridge Pond/Stream Bottom Topo; River/Stream Spots for Stream Contouring; Stream Channel Profiling (Thalweg) at Structure; Hydraulic Cross-Sectioning; Wetland Limits Flag Locations; Office Editing and Preparation of Base Mapping; Title Mylar and Schedule of Property Owners.



Replacement of School Ground Road Bridge over Branford River (CTDOT Bridge No. 04848), Branford, Connecticut The existing bridge consists of a single-span cast-in-place concrete structure on stone rubble masonry abutments. Recommendation for full replacement was necessitated by the bridge's poor condition, evidence of scour at the bridge and channel, inadequacy of bridge width, and hydraulic inadequacy. A new 28' single-span precast concrete bridge will replace the original structure, and additional new construction includes new 5.5' of sidewalk provided on the easterly side of the bridge, 980' of associated roadway reconstruction with a 32' roadway approach width, minor adjustments to the horizontal roadway geometry, a raised roadway profile (about 1' at the bridge and approx. 1.5' at the low point north of the bridge), and improved hydraulic capacity and overtopping frequency (to a 5 year storm). Est. Construction \$ 2.64 Million



Replacement of Mill Bridge Road Bridge over Bungee Brook (CTDOT Bridge No. 04641), Eastford, Connecticut Due to significant deterioration along and at the waterline the Mill Bridge Road Bridge – built in 1950 - has a Substructure Condition Rating of 3 (serious) and the existing bridge is being replaced. The new structure is currently in the late stages of design. Est. Construction \$ 1.93 Million

Replacement of Peck Orchard Road Bridge over Unnamed Brook (CTDOT Bridge No. 06176), Hartland, Connecticut The bridge was constructed in 1941 and consists of two

culverts, both of which show signs of significant deterioration including perforations and corrosion for the full length, as well as water flowing under and around the pipes. It is also considered to be scour critical. The proposed replacement will consist of a single span or concrete rigid frame bridge supported on footings founded on bedrock. Design is currently in progress and is also anticipated to include roadway reconstruction to improve sightlines for approaching traffic and roadway improvements such as horizontal and vertical re-alignment, shoulder widening, side slope grading, drainage, and guiderail upgrades. In addition to survey, Freeman Companies, LLC also provided subsurface explorations and geotechnical reporting for this project. Est. Construction \$ 1.16 Million

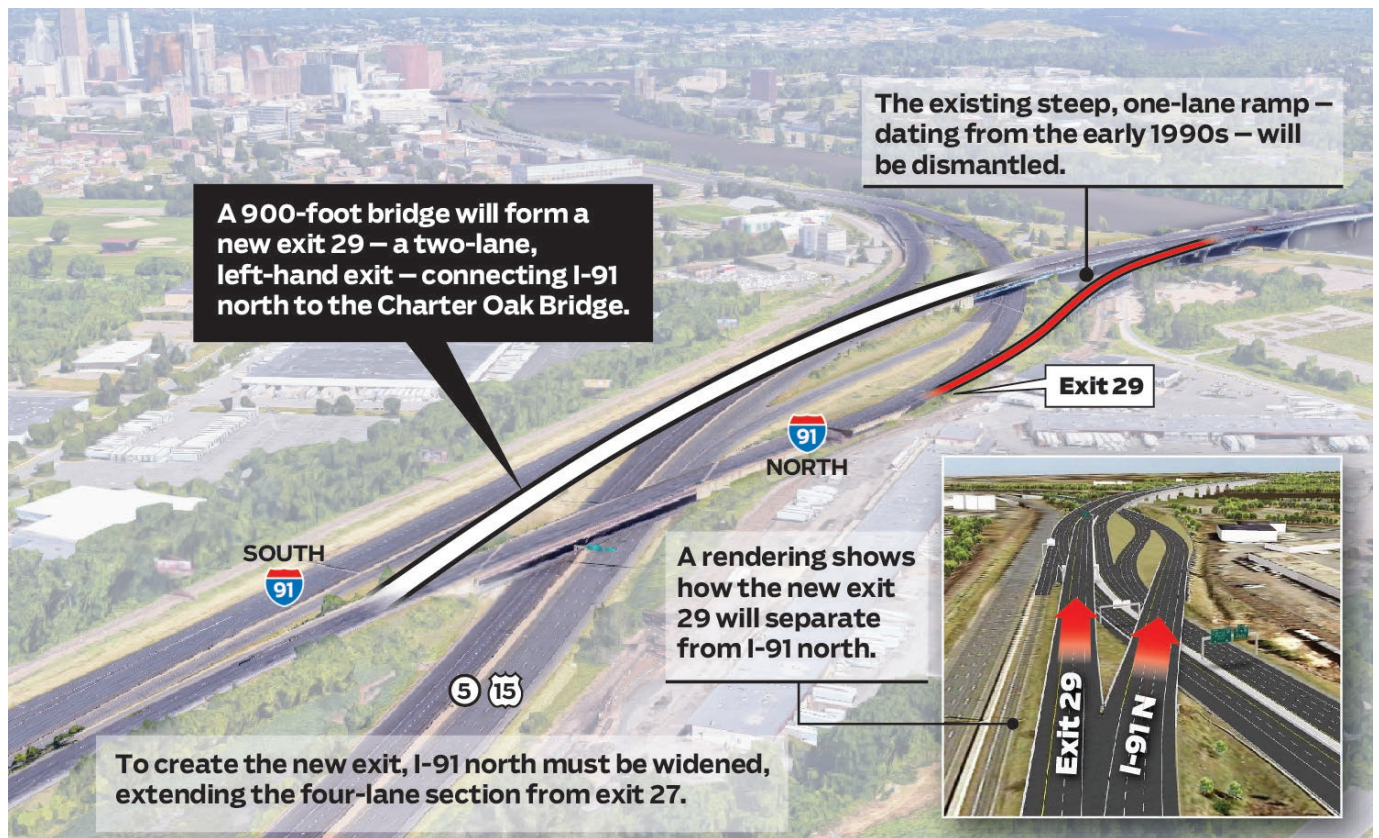
Replacement of North Bear Hill Road Bridge over the Natchaug River (CTDOT Bridge No. 04601), Chaplin, Connecticut The existing North Bear Hill Road Bridge was built in 1969 and underwent repairs in 1990. The bridge, a two-span structure constructed of rolled steel beams and a corrugated deck, sits on a skew of approximately 10 degrees to the river. The bridge is structurally deficient due to both the superstructure and substructure having been assigned a condition rating of 4 (out of a possible 9). In addition, due to foundation conditions and scour holes, the bridge is categorized as scour critical and is slated for total replacement. The design concept anticipates a total replacement of the existing bridge with a single or multiple clear-span structure providing improved hydraulic conditions, slightly wider than the existing bridge and with improved horizontal and vertical roadway alignments. Est. Construction \$8.57 Million



Federal STP-Urban Funding Program: Replacement of Farmington Avenue Bridge over Mattabeset River (CTDOT Bridge No. 04474), Berlin, Connecticut This project involves the removal of the existing bridge and installation of a new bridge, in addition to relocation of utilities, reconstruction of the approach roadway, and the introduction of two new amenities: a sidewalk on at least one side of Farmington Avenue up to Mill Street and of a small parking area for the John D. Massirio Park. The existing bridge was built circa 1928 and is typical of reinforced concrete bridges constructed in this time period. Its condition was evaluated by CTDOT as poor, as well as being hydraulically inadequate, overtopped by 3 feet or more during the 100 year storm event. It was determined in the project concept stage that the existing bridge would be completely replaced with a single span structure, therefore, evaluation of the superstructure type alternatives specifically addressed hydraulic adequacy in order to determine if longer spans would decrease flooding depths. Alternatives were assessed in relation to aesthetics, roadway geometry, construction cost, construction staging, maintenance of utilities during construction and water handling. Est. Construction \$ 3.16 Million

Owner: State of Connecticut - Department of Transportation – Multiple Municipalities
Client: WMC (Wengell, McDonnell & Costello, Inc.) Consulting Engineers (Prime Engineer)
Services: Bridge and River Surveying
Years Services Provided: 2011 - 2017
Prime or Sub: Sub

Connecticut Department of Transportation: “Charter Oak Bridge Rehabilitation” State Project No. 63-703: Relocation of I-91 NB Interchange 29 and Widening of I-91 NB and Route 15 NB to I-84 EB Hartford – East Hartford, Connecticut



Freeman Companies is providing comprehensive Geotechnical Engineering services to the Prime Engineer for this significant reconstruction of the northbound approach to the Charter Oak Bridge in Hartford and East Hartford. The six-lane Charter Oak Bridge carries Routes 15 and 5 over the Connecticut River and was presented as a solution to Hartford traffic congestion when it first went into service in 1991. Over the years, however, a combination of contributing factors have led to unsafe conditions, congestion and operational failures. While the project itself does not involve replacing the Charter Oak Bridge, but rather it widens the approaches that lead to the bridge, where traffic frequently builds up. Plans involve: 1. Widening of I-91 north between interchange 27 to interchange 29, which will require modifications to four bridges: I-91 over Route 15, I-91 over a drainage crossing, I-91 over the entrance ramp to I-91 south and Route 15 south, and I-91 over Airport Road; 2. Replacement and relocation of the I-91 exit ramp at Interchange 29 with major diverge; and 3. Widening of Route 15 north from the Charter Oak Bridge to the Silver Lane underpass.

During the first phase of the project Freeman Companies reviewed and evaluated available existing geotechnical and structural data within the project area, which included bridges, retaining walls, and embankments. Data include results of subsurface explorations, foundation designs, and parameters for design of bridges, retaining walls, and embankments reported in record documents from previously completed State of Connecticut Department of Transportation projects. The Geotechnical Existing Data Report summarized available subsurface information, structural design parameters and embankment information for each existing structure in concise format, providing a convenient reference during design. Subsurface conditions, laboratory testing results, structure foundation types, test pile and load test data, and settlement data are also summarized for bridges, retaining walls, and embankments based on existing geotechnical reports and construction plans.

The second phase included coordination and oversight of the subsurface exploration program which included test borings, cone penetration tests, and extensive laboratory testing program in support of the geotechnical engineering design of 26 total bridges, retaining walls, steepened slopes, and roadway. Reports for the structures, walls and roadway were completed and submitted to the Department for review and comment. The project is currently in the Construction phase. Total cost of the project is estimated to be \$ 213 million, with an anticipated funding split of 80 percent federal and 20 percent state funds. Construction began in 2018 and will be complete in 2023. The project is a major component of the state's \$100 billion transportation system upgrade initiative intended to stimulate growth and productivity and improve the state's economy and quality of life.

Owner: State of Connecticut – Department of Transportation

Client: CME Associates (Prime)

Services: Compiled Geotechnical Existing Data Report; Conducted Preliminary and Final SSE Programs; Involved Test Borings and Cone Penetrometer tests and Preliminary and Final Design Reports for: 10 Existing Bridges, 1 New Ramp Bridge, 7 New Retaining Walls, 5 Route 5/15 Steep Slope/Retaining Wall Areas, 1 Sign Supports, 1 I-91 / Routes 5&15 Roadway Embankment – West of the River and 1 I-91 / Routes 5&15 Roadway Embankment –East of the River; Freeman Companies is also providing Construction Phase Geotechnical Engineering Services (for the Prime Engineer) and Construction Survey (for the Prime Contractor, O & G)

Years Services Provided: 2014 - Ongoing

Prime or Sub: Sub

Connecticut Department of Transportation: Design-Build Rehabilitation of Bridges No.02366, 02369, I-84, Route 2, and Ramps in East Hartford and Bridge No. 00847 Potter School Road Over I-84 in Willington (State Project No. 171-431) East Hartford and Willington, Connecticut



Owner: Connecticut Department of Transportation
Client: HW LOCHNER
Services Provided: Geotechnical Engineering, Land Survey
Years Services Provided: 2017 - Present
Prime or Sub: Sub

Freeman Companies is providing Geotechnical Engineering and Land Surveying services to the prime contractor in order to obtain the existing conditions and critical elements information of four bridges and portions of the approaches in East Hartford and Willington, Connecticut.

The Base Technical Concept (BTC) that has been developed for this project includes the replacement of the superstructures of all four bridges and other associated work. The three bridges located in East Hartford are each comprised of three simple spans. Each of these bridges will be replaced with new three simple spans utilizing link slabs over the piers to eliminate deck joints over the piers. The bridge in Willington is comprised of two simple spans and will be replaced with a new two simple span bridge. Existing bearings will be replaced with steel reinforced elastomeric bearings. The piers and abutments of all four bridges will require modification to accommodate the new superstructure and to increase the load carrying capacity.

The phasing of the construction in the BTC includes construction of the bridges in East Hartford proceeding in three phases. The first and second phases have been completed. The first phase included work completed on the bridge substructures and strengthening the piers. The second phase included the superstructure replacement of Bridge No. 02369 with one lane detoured and staged construction. The third phase will include the superstructure replacement of: Bridge No. 02366 utilizing a full bridge closure with traffic detours, and Bridge No. 02367 maintaining traffic utilizing staged construction. Construction of the bridge in Willington was completed in 2018. It proceeded in two phases. The first phase included work to the substructure and strengthening the pier and the second phase included the bridge superstructure replacement with a full closure and detour of Potter School Road. For all of the bridges, construction of each phase will be limited to a number of consecutive calendar days for each phase. Due to the limited number of consecutive calendar days for construction described above, some or all of the bridges will need to be built using Accelerated Bridge Construction Technologies.

The scope of work includes, but is not limited to, the following:

Bridge No. 02366: Route 2 WB & ST 500-806 over I-84 EB & I-84 TR 828, East Hartford:

- Survey pier column locations and bottom of girder elevations at each substructure.
- Survey approaches to 250' from each end of the bridge.

Bridge No. 02367: I-84 TR 829 over I-84 EB & I-84 TR 828, East Hartford:

- Survey pier column locations and bottom of girder elevations at each substructure.
- Survey approaches to 250' from each end of the bridge.

Bridge No. 02369, Route 2 EB & I-84 TR 828 over I-84 TR 833 & I-84 TR 831, East Hartford:

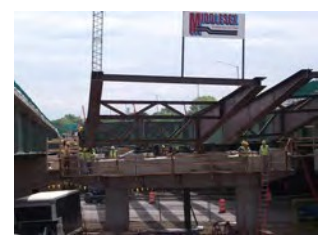
- Prepare detailed survey of the top of substructures and existing beam seats for all abutments and piers.
- Survey approaches to 350' from each end of the bridge.

Bridge No. 00847: Potter School Road over I-84, Willington

- Prepare a detailed survey of the top of existing beam seats at the abutments.
- Prepare a survey of beam seats at piers.
- Survey approaches to 150' from each end of the bridge.

For all bridges, the contractor will be required to prepare a final Geotechnical Report for this entire project including the reuse of the existing substructures after rehabilitation. Freeman Companies is also responsible for geotechnical investigation, analysis, and design for this project.

Connecticut Department of Transportation: Reconstruction of I-95 Over the West River, Replacement of Bridge No. 00163A New Haven and West Haven, Connecticut



The West River Bridge, one of the longest and most heavily traveled bridges in Connecticut, is being replaced, two partial interchanges simplified, and a new, closed drainage system provided. It will also tie into the New Haven Harbor Crossing Corridor "Q-Bridge" Improvement Program with the reconstruction of 1 mile of I-95.

Freeman Companies is providing multiple Geotechnical Engineering services to the Contractor, and is presently responsible for:

- the pile design for the temporary Stage 1 and Stage 2 construction access trestles;
- WEAP Analyses for production piles;
- design of the sheetpile bulkhead leading up to the temporary trestles;
- drilling test borings and installing vibrating wire piezometers in preload areas per contract plans;
- drilling and monitoring test borings to obtain additional undisturbed soil samples of the organicsilt;
- arranging for laboratory testing of the additional soil samples;
- designing a temporary block wall for installation of a noise barrier wall;
- and engineering consultation.

This \$ 131 million project widens the existing bridge from 92 feet wide to 136 feet wide while maintaining the existing six-lane highway and adding four full-width shoulders, which allows for fewer lane closures caused by vehicle incidents or police activity.

Owner: State of Connecticut
Client: The Middlesex Corporation
Services: Geotechnical Engineering
Years Services Provided: 2013-2017
Prime or Sub: Sub

City of Norwalk: Bridge Inspections for City-Owned Bridges 20 Feet or Less in Length Norwalk, Connecticut



Freeman Companies has been recently selected by the City of Norwalk to conduct the inspection and evaluation of 27 non-NBIS (National Bridge Inspection Standards) City-owned bridges and culverts that are 20 feet or less in length. Mr. Dennis Quinit, PE is serving as Project Manager and Team Leader.

Freeman Companies is performing above-water and under-water hands-on inspection of the City-owned bridges to assess and document the current conditions of each structure, some of which were last inspected in 1991 while others have no documented previous inspection. Observed deteriorations and deficiencies will be documented, which will then be reviewed and structurally evaluated with regards to their effect and impact to the structure's stability and continued safe operation. Accordingly, recommendations for the appropriate repairs and rehabilitation and required maintenance work will be provided and included in the Inspection and Structure Evaluation Reports.



Part of this task is the preparation and development of Inventory of Structures that summarizes the findings and observations gathered during the bridge inspection. The inventory of structures will be a database of City-owned bridges that includes a brief summary of structure deteriorations and deficiencies, appraisal and condition assessments of the bridges' components and channel conditions, as well as brief description of recommended maintenance, repairs and rehabilitation to improve assessed condition ratings.

This project will require preparation of material testing services, maintenance and protection of traffic, hydrologic and hydraulic study, scour analysis, inventory of structures and asset management assistance, topographic and property survey, bridge preservation and scour mitigation.

Substructure units shall be checked for signs and scour and benchmark measurements taken in accordance with the Federal High Administration (FHWA) Bridge Inspectors Reference Manual and the CTDOT Bridge Inspection Manual standards.



Owner/Client: City of Norwalk
Services: Bridge Inspection Project
Years Services Provided: 2018-2019
Prime of Sub: Prime

Town of Greenwich: Bridge Inspection Services Greenwich, Connecticut



Freeman Companies was recently selected by the Town of Greenwich to perform bridge inspection services on Town owned bridges that span less than 20' in Greenwich, Connecticut. Freeman Companies' Dennis M. Qunit, PE will serve as Principal Bridge Engineer.

To ensure the successful performance of this project, Freeman Companies (Freeman) will perform the bridge inspections in accordance with the latest federal and state guidelines and standards including the Federal Highway Administration (FHWA) **National Bridge Inspection Standards (NBIS)**, the FHWA **Recording and Coding Guide for the Structure Inventory and Appraisal of the Nation's Bridges (Recording and Coding Guide)**, the American Association of State Highway Officials (AASHTO) **Manual for Bridge Evaluation (MBE)**, and the Connecticut Department of Transportation (CTDOT, State) **Bridge Inspection Manual (BIM)**.

Freeman Companies' inspection teams are not only experienced in inspecting a variety of simple and complex structures but are also experienced in identifying and evaluating deficiencies and signs of structural distress on critical components of the structure, including extreme instances that may require immediate action on the structure, such as repair or replacement of a component, or in some occasions result in the partial or full closure of the bridge to ensure traffic and pedestrian safety. In these instances, our inspection team will evaluate the observed deficiencies and any signs of distress, and coordinate and work closely with the Town with regards to appropriate recommended measures and actions to be taken.

Owner/Client: Town of Greenwich
Services: Bridge Inspection Project
Years Services Provided: 2019
Prime or Sub: Prime

City of Danbury: Bridge Inspections and Load Ratings of City-Owned Bridges

Danbury, Connecticut



Freeman Companies' Manager of Bridge Engineering and Construction Dennis M. Quinit, PE served as Project Manager, Team Leader, and Inspector on this project with a previous employer. He was responsible for completing full in-depth inspection services for 40 structures in the City of Danbury. These structures consist of short span bridges varying in span lengths from six feet to 20 feet as well as inspecting different types of buried structures such as box culverts and corrugated multi-plate metal pipes. Provided hands-on inspection services for each structure and determined the sufficiency and structural adequacy of each structure. Identified structural and functional deficiencies of each structure, suitability of traffic protection, such as bridge railings, and assessed channel scour and/or embankment erosion near the structures. The results of each inspection were documented in a report including a summary using the standard CTDOT form BRI-18, BRI-19 and subsequent photograph sheets illustrating the areas of deterioration. The structures were inspected in accordance to the National Bridge Inspection Standards (NBIS) supplemented by the Connecticut Department of Transportation's Bridge Inspection Manual.

Owner/Client: City of Danbury
Services: Dennis M. Quinit, PE served as Project Manager, Team Leader, and Inspector on this project with a previous employer.
Years Services Provided: 2013 - 2015
Prime or Sub: Prime

Town of Killingly: Replacement of Bridges Nos. 68-000, 68-002 and 68-003

Killingly, Connecticut

The project consists of the design of three bridges—Bridge No. 68-000, Bear Hill Road over an unnamed brook; Bridge No. 68-002, Valley Road over Mashentuck Brook; and Bridge No. 68-003, Valley Road over Whetstone Brook. With spans less than 20 feet to meet all Local, CTDOT, State and Federal requirements. The work includes coordination with all necessary Federal, State, and Municipal agencies. Services required include survey, hydraulics, hydrology, environmental, geotechnical, borings, development and production of plans, specifications, bid documents, all permitting, meeting attendance, contract administration and shop drawing review.



Owner/Client: Town of Killingly
Services: Land Survey, Environmental Sciences, Geotechnical Engineering, Hydraulics & Hydrology
Years Services Provided: 2017 - 2019
Prime or Sub: Prime

Bridge Number 68-000, Bear Hill Road over Unnamed Brook

Existing Conditions: The existing structure, carrying Bear Hill Road, Bridge Number. 68-000 over Unnamed Brook is a twin pipe culvert. Each pipe has a span a 5-feet. The overall structure rating is poor, (Rating=4). The bridge is approximately 0.35 -miles south of Route 101 in the town of Killingly. The structure was built in 1970 and there are no bridge plans available. The overall length of the bridge is 13-feet with a roadway approach width of 27-feet, which carries one lane of traffic in each direction and is on a 15-degree skew. It supports a bituminous concrete wearing surface with no sidewalks for pedestrian use. The guiderail system on the bridge is in fair condition.

Proposed Bridge Type: Freeman Companies recommended and designed a new precast concrete box culvert. This alternative will have a minimum clear span of approximately 10-feet and will provide a larger hydraulic opening. Metal Beam Rail Type RB-350 will be provided for roadway safety on both sides with end anchorages.

Bridge Number 68-002, Valley Road over Mashentuck Brook

Existing Conditions: The existing structure, carrying Valley Road, Bridge Number. 68-002 over Mashentuck Brook is single span with a clear span of 12'-9". The superstructure consists of a cast-in-place with 10-steel stringers approximately 8-inches in depth. The overall structure rating is poor, (Rating=4). The bridge has a concrete parapet on the north fascia and Metal Beam Rail mounted on a 1'-11" concrete parapet. The bridge is approximately 0.4-miles south of Route 101 in the town of Killingly. The structure was built in 1940 and there are no bridge plans available. The overall length of the bridge is 16-feet with and the width is 21-feet, which carries one lane of traffic in each direction and is on a zero-degree skew. It supports a bituminous concrete wearing surface with no sidewalks for pedestrian use. The guiderail system on the bridge is in fair condition.

Proposed Bridge Type: Freeman Companies recommended and designed a new precast concrete box culvert. This alternative will have a minimum clear span of approximately 16-feet. The wingwalls will be cast-in-place concrete U-type on spread footings. The bridge will have cast-in-place concrete parapets with metal bridge rail on top on both sides with metal beam rail Type RB-350 attached. Channel improvement work will include Riprap and slope protection and reconstruction of the channel streambed.

Bridge Number 68-003, Valley Road over Whetstone Brook

Existing Conditions: The existing structure, carrying Valley Road, Bridge Number. 68-003 over Whetstone Brook is single span with a clear span of 18'-0". The superstructure consists of multi-steel beam with concrete deck. The overall rating of the deck is poor, (Rating=4). The bridge has a concrete parapet on both sides metal beam rail mounted on a concrete parapet. The bridge is approximately 0.5-miles south of Route 101 in the town of Killingly. The structure was built in 1939 and there are no bridge plans available. The overall length of the bridge is 23-feet with and the width is 19.8-feet, which carries one lane of traffic in each direction and is on a 30-degree skew. It supports a bituminous concrete wearing surface with no sidewalks for pedestrian use.

Proposed Bridge Type: Freeman Companies recommended and designed a new precast concrete box culvert. This alternative will have a minimum clear span of approximately 19-feet. The wingwalls will be cast-in-place concrete flared-type on spread footings. The bridge will have cast-in-place concrete parapets with metal bridge rail on top on both sides with metal beam rail type RB-350 attached. Channel improvement work will include Riprap and slope protection and reconstruction of the channel streambed.

Town of New Milford: Replacement of Bridge. No. 095014 Tamarack Road Bridge New Milford, Connecticut



Freeman Companies was recently selected by the Town of New Milford to produce a complete set of design plans, specifications and bid documents for the replacement of the Tamarack Road Bridge over Denman Brook in New Milford, Connecticut (original bridge pictured at left).

The Tamarack Road Bridge (Bridge 095014) is a buried structure that carries a two-lane local rural road and conveys the Denman Brook. Located approximately 6 miles north of the New Milford town center, the culvert consists of a corrugated metal pipe-arch bridge with dry-stacked rubble masonry headwalls on both sides. The bridge is currently partially operational with a single alternating one-way traffic lane due to the collapse of the north dry-stacked stone masonry headwall. In order to provide traffic protection, temporary precast concrete barrier curbs were installed.

Due to the structural deficiencies, the bridge is slated to be replaced, which will be done completely under full Town funding. Freeman Companies is working with the Town to develop the most cost-effective and long-lasting bridge type solutions.



Years Services Provided: 2018-Present

Owner/Client: Town of New Milford

Services: Structural Engineering, Traffic and Transportation Engineering, Land Survey

Prime or Sub: Prime

State of Connecticut - Department of Housing: Community Development Block Grant Program: Hurricane Sandy Disaster Recovery Environmental Assessment of Single Family Housing Units along the Connecticut Coastline East Haven, Milford, Fairfield, New Haven, Stratford and Bridgeport, Connecticut



The State of Connecticut Action Plan for Community Development Block Grant Program Disaster Recovery submitted a Plan to the U.S. Department of Housing and Urban Development (“HUD”) as part of a receipt of \$71,820,000 of federal funding under the Community Development Block Grant – Disaster Recovery (CDBG-DR) Program. The funding was authorized under The Disaster Relief Appropriations Act of January 29, 2013. The allocation of the Funding to the State is intended to address immediate unmet housing and economic revitalization needs in those counties and jurisdictions that were most severely impacted by Hurricane Sandy.

Environmental Services

Pursuant to the National Environmental Policy Act (NEPA), Freeman Companies, LLC prepares the environmental documentation which is necessary for the determination of whether the proposed rehabilitation of the properties that have submitted applications for the Grant through the Connecticut Department of Housing (DOH) is a categorically excluded action under 24 CFR 58.35. As part of the requirements of 24 CFR Part 58, Freeman Companies completes a Statutory Checklist. The Statutory Checklist indicates whether the proposed rehabilitation activity does or does not affect the resources under consideration. Status “A” indicates that the project does not require formal consultation with an outside agency and does not affect the resource in question. Status “B” indicates that the activity requires formal compliance consultation with the oversight agency or affects the resource. The documents and/or information sources used in making the determination are listed in the checklist. A compliance determination is provided following the checklist. As part of the environmental review, Freeman Companies conducts the following assessment activities for each application: State Historic Preservation Office review; floodplain management; wetland protection; coastal zone management; sole source aquifer; endangered species; air quality; contamination and toxic substances, environmental justice; coastal barriers; fish and wildlife; lead based paint; asbestos; radon; mold; flood management; and wetlands.

Hazardous Building Material Services

Freeman Companies, LLC HBMI staff have been performing the inspections, evaluations and final inspection report preparations pursuant to the asbestos, lead in paint/water, mold and radon investigations in multiple residences throughout the coastal flood zones of southern Connecticut that were damaged by Hurricane Sandy of 2012. Investigations involve the continuous inspections of over 140 residences (thus far). All interior and exterior materials sufficiently sampled, evaluated and quantified for reasons of generating an abatement cost estimate for any hazardous materials.

Owner: State of Connecticut – Department of Housing

Client: Lothrop Associates and Amaya Architects

Services: Environmental Services, Hazardous Building Material Investigations, Land Survey

Years Services Provided: 2014 – 2018

Prime or Sub: Sub

City of Hartford, Department of Development Services and the Wilson Gray YMCA of Greater Hartford: “On-Call” Contract for Parking Lot Design, 427 Albany Avenue Hartford, Connecticut



In 2014 Freeman Companies was asked to review its original 2010 design for an expanded parking lot for the YMCA (previously prepared for Community Health Services) and to prepare a comprehensive Planning and Zoning Commission Application to the City so that the “Y” would then be able to complete the parking lot project. The Project Area consisted of three properties located at the southwestern intersection of Albany Avenue and Brook Street.

In addition to Land Survey, Geotechnical Engineering, Civil Engineering and Landscape Architecture review – services provided for the site planning, site plan approval and zoning variance approval - Freeman Companies was also asked to provide comprehensive Environmental Investigation and oversight for the project, initiated by Phase I and Phase II Environmental Site Assessments which were conducted in 2010, and followed up in 2014 by a Phase III ESA and in 2015 by pre-characterization soil sampling activities in support of the proposed construction activities.

Based on the analytical results from the assessment activities, the subsurface soils were identified to be impacted by petroleum hydrocarbons and metals. Based on the proposed parking lot design approximately 1,800 tons of impacted soil, would need to be excavated from the .35 acre site and properly disposed of during the construction process.

Freeman Companies’ engineering and environmental professionals worked with the City and the City’s selected Contractor to provide multiple days of excavation and backfill and compaction field oversight of the project.

Comprehensive design and construction services included: Site Construction Plans, Administrative (“Front End”) Specifications, Technical Specifications, Pre-Bid Services, Bid Opening Services, Post-Bid Services, Construction Administration, Oversight of the Removal of Impacted Material, Oversight of Backfilling and Compaction, and Project Closeout Walk Through and Report Preparation.

Owner: Wilson Gray YMCA of Greater Hartford

Client: City of Hartford – Department of Development Services

Services: Land Survey, Geotechnical Engineering, Civil Engineering, Landscape Architecture, Environmental Services, Construction Support and Field Inspection

Years Services Provided: 2014 – 2015

Prime or Sub: Prime



Connecticut Department of Administrative Services – Division of Construction Services: “On-Call” Contract: Abatement, Demolition, and Vibration Monitoring of 10 Clinton Street (the former State Department of Public Health Laboratory) Hartford, Connecticut



Under its On-Call Services contract with DAS-DCS, Freeman Companies was selected to provide Project Management, Civil Engineering, Hazardous Building Material Services, Structural Engineering, Vibration Monitoring and comprehensive Construction Inspection and Administration services for this major building demolition in the heart of an historic neighborhood in downtown Hartford in very close proximity to the Connecticut DEEP Office Building, State Judicial Office Building, historic church, the Bushnell Center for the Performing Arts and the City of Hartford Mayor’s Residence.

The project consisted of demolishing the Department of Health Laboratory building, the building addition on the east side and the pedestrian overpass connecting the original Department of Health Laboratory to 79 Elm Street. In its place a 25,000 square foot parking lot was constructed, as well as a wall on the north side and installation of additional drainage structures. Scope of work included disconnecting and capping the existing utilities servicing the buildings, coordinating the permitting process with the City of Hartford and the Metropolitan District Commission, performing boundary investigation and topographic survey with a subdivision plan, and abatement of all hazardous building materials.

Freeman Companies provided Construction Inspection and Administration during the demolition process which included pre-construction observation and structural oversight and reporting. Of special concern to the Commissioner of DAS was minimizing/mitigating the impact of necessary demolition activities on the neighborhood. Freeman Companies successfully coordinated with high profile stakeholders to complete a smooth, “precision demolition” of the existing building with little impact to abutters and the public.

Owner/Client: State of Connecticut – Department of Administrative Services – Division of Construction Services

Services: Project Management, Civil Engineering, Hazardous Building Material Services, Structural Engineering, Vibration Monitoring and Construction Inspection and Administration

Years Services Provided: 2016 – 2018

Prime or Sub: Prime

CRDA/CCDA: Program Management for the new Design-Build Garage, Hartford, Connecticut

In November 2018, Freeman Companies was contracted by the Capital City Development Authority (CCDA) in collaboration with the Capital Region Development Authority (CRDA), the Connecticut Department of Administrative Services’ Department of Construction Services (CTDAS-DCS), and Desman Design Management to provide program management services to the State to shepherd the proposed \$ 14.3 million, new +/- 500 space parking garage, which is to be built on the site previously occupied by the Public Health Laboratory at 10 Clinton Street. Freeman Companies’ services for the State are comprehensive and include program management, land surveying, civil engineering, geotechnical engineering, traffic engineering, and environmental services.

Building abatement, building demolition and site remediation were recently completed. The new +/- 500 space parking garage will be located on the Site in an area where a portion of the former building was and where a surface parking lot is currently located. Vehicle access will likely be from Capitol Avenue and West Street and pedestrian access will likely be from Capitol Avenue and Clinton Street. The parking garage concept has not been finalized but is envisioned to have rough footprint dimensions of 120 feet by 240 feet. It is understood that the garage will be designed and constructed by a Design-Build Team led by Manafort Brothers. Part of the program management scope includes preparation of the full Design-Build package, and assistance to the Owner and Client in evaluating the submitted proposals, to select the best value option.

Hartford Hospital: Hudson Street Employee Parking Garage/Fitness Center Hartford, Connecticut



Freeman Companies provided construction land surveying services to Hartford Hospital and McKinney Drilling Company on this major \$ 40 Million project, a nine-floor, 1,250-space, 440,000 SF parking and fitness structure intended to increase available staff parking on campus by about 20%.

Freeman Companies established horizontal and vertical control for the project, performed construction stakeout and location of 60 concrete caissons up to 4.5-feet in diameter, and depth up to 75-feet. Set grades for rebar cages and depth of concrete during pours. Monitored depth of drilling and took depth hole measurements for cutting of rebar cages for each caisson.

Continuous collaboration on plan-checking and conflict resolution with Construction Manager and Parking Design Consultant.

This project was awarded "Best Parking Structure (900+ cars)" from the Precast / Prestressed Concrete Institute's 2013 Design Awards program.



BKM Total Office: Furniture Warehouse and Office Building (Reconstruction after Fire) East Hartford, Connecticut



In December 2009, a major fire destroyed a warehouse that was occupied by BKM Total Office, a local furniture manufacturing and distribution company. Located on a two acre site in the Town of East Hartford, the building was approximately 50,000 SF comprised of primarily warehouse/storage space and a small mezzanine office area.

Freeman Companies was at the forefront of the fast-track, design-build reconstruction initiative. The destroyed building was quickly demolished and removed from the site, as plans for a replacement building were being prepared.

A new 50,000 SF pre-cast concrete panelized building with 8,000 SF of office space was planned for the site, with the goal of completing the construction within six months.



Freeman Companies lead the permitting process with the Town and illustrated the improved circulation and loading operations while making a formerly non-conforming zoning site fully conforming. Strong communication and collaboration with the Town, client, project attorney, contractor, architects and other members of the team was crucial to the success of this project.

Freeman Companies oversaw the construction and provided administrative services. The re-construction of the warehouse was efficient and cost-effective and the Certificate of Occupancy was issued in June 2010, only six months after the building was completely destroyed by fire.

Polamer Precision: New Aerospace Manufacturing/ Warehouse Building with Associated Office Space (Design-Build)

Pinnacle Business Park, New Britain, Connecticut



A new 150,000 facility situated on 8.25 acres within New Britain's Pinnacle Business Park enables Connecticut high-tech aerospace manufacturer Polamer Precision to expand capacity, double its workforce, and facilitate economic growth. The new, state-of-the-art facility houses 122,000 SF of manufacturing space and 22,000 SF of office space as well as inspection areas, conference and training rooms.

Freeman Companies provided integrated site development services to the Prime Contractor, including land surveying, civil and geotechnical engineering, and environmental services. A vacant site necessitated site circulation planning, new parking, walkways, loading areas, landscaping and security gates and fencing. Due to the native, silty soil, geotechnical engineers recommended that the building be supported on spread footing foundations bearing on the native glacial till, compacted existing fill, and structural fill, with an earth-supported slab-on-grade floor slab. Environmental scientists were also asked to review and summarize several reports prepared by others concerning previous abatement actions at the property.

Freeman Companies also provided Construction Assistance to the Owner and Construction Manager during the construction phase by providing construction stakeout and as-built drawings, observing placement fill materials, confirming the suitability of foundation subgrades, providing engineering consultation regarding the selection of fill materials and other issues.

Owner: Polamer Precision

Client: PDS Engineering & Construction, Inc.

Services: Land Surveying, Civil Engineering, Geotechnical Engineering, Environmental Services

Years Services Provided: 2012 – 2014

Prime or Sub: Sub

United Technologies Corporation – Pratt & Whitney Division: Task Release

“On-Call” Contract: Multiple Parking Lot Improvements

East Hartford and Middletown Campuses, Connecticut



Freeman Companies, LLC has been fortunate to have served Pratt & Whitney since 2011, providing Land Survey, Civil Engineering, Geotechnical Engineering and Traffic Engineering Design Services for multiple parking projects at the East Hartford and Middletown campuses. these assignments have included:

Phase II and III Engineering Building Parking Lots (2011): Pratt & Whitney was in the process of making improvements to the existing E-3, E-4 and E-5 parking lots in the vicinity of the Engineering Building located at the south end of the Pratt & Whitney campus in East Hartford, Connecticut. The initial phase of the project consisted of installing storm drainage pipes and structures within the lot to assist in collecting runoff during storm events. The work associated with the subsequent phase of the project generally consisted of the installation of three LED light fixtures, poles and bases throughout the parking lot. The overall site improvements were designed to be phased over two or more years as the budget allowed, and Freeman Cos. coordinated with Pratt & Whitney staff during the design process to determine the proper project phasing. The project site was an existing paved parking lot, approximately 15-acres in size, encompassed by an internal ring road. This site is bound by Main Street (CT Route 517) to the west, Runway Road to the east and South Road to the south. South Road also divides lots E-3 and E-5.

M-1 Parking Lot Rehabilitation (2011): Numerous problems existed with the M-1 parking lot that required refurbishment. The parking lot was surveyed and analyzed to determine an efficient solution to fix the ponding issues that were continually plaguing the parking lot. The project site was an existing paved parking lot, approximately 5-acres in size, bound by land under construction to the west, Runway Road to the east, M Building to the north and the K-1 parking lot to the south.

Temporary Parking Lot (2011): Freeman Companies assisted Pratt & Whitney in providing a 20-space temporary parking lot to the west and south of the existing guard post within the M-1 parking lot. This lot was created to allow contractors to pick up daily badges at the guard post as opposed to the post at the Willgoos facility. The new, temporary parking lot was approximately 0.5-acres in size, to the immediate west of the primary access drive to the M-1 parking lot. No disturbance was made to the existing M-1 parking lot.

Safety Improvements at E-4 Parking Lot (2013-2014): Freeman Companies, LLC prepared a conceptual site plan to show safety improvements regarding pedestrian/vehicle interaction in the carport/E-4 parking lot of the Engineering Building. The concept plan was subsequently revised to show updates for revised fencing locations, fencing type and other site improvements, as requested by Pratt & Whitney. The cost estimate was also updated based on the revised Concept Plan.

2015: Professional Parking and Traffic Engineering Study (Middletown) OBB-2 Parking Lot Design Renovations (East Hartford); **2017:** Waste Treatment Truck Entrance Redesign, Parking Lot C (Middletown) Improvements and Intersection Design

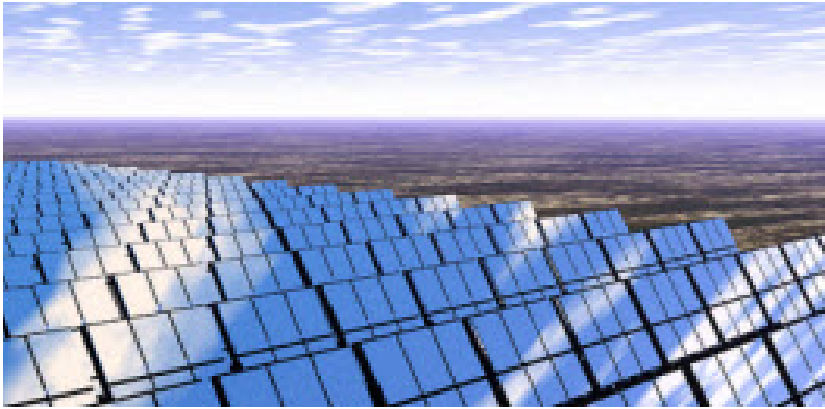
Owner/Client: United Technologies Corporation – Pratt & Whitney Division

Prime or Sub: Prime

Services: Land Surveying, Civil Engineering and Traffic Engineering

Years Services Provided: 2011 – Ongoing

Greenskies Renewable Energy: Solar Field Developments Meriden, North Haven and Middletown, Connecticut



Owner: Cities of Meriden, Town of North Haven, City of Middletown

Client: Greenskies Renewable Energy

Services: Land Surveying, Environmental Services, Geotechnical Engineering, Civil Engineering, Permitting, Construction Administration and Environmental Field Observation (Full-Time)

Years Services Provided: 2013 - 2017

Prime or Sub: Prime

Freeman Companies provided Land Surveying, Environmental Services, Geotechnical Engineering, Civil Engineering and Construction Field Observation to Greenskies Renewable Energy for the development of three solar field projects for Connecticut municipalities participating in the Low and Zero Emissions Renewable Energy Credit Program through Connecticut Light & Power and United Illuminating.

Meriden Solar Field

The Meriden project site is a closed landfill located at the Meriden-Wallingford town line on Evansville Avenue and is approximately 38 acres in size. The system size will be 1.3 MW DC= (4,257) 305 Watt modules for an STC rating of 1,298,385 watts. The Meriden site is construction of a new grade mounted photovoltaic field composed of approximately 4,257 PV modules. The project is expected to save the city between \$870,000 and \$2.3 million over the next 20 years and will offset energy costs associated with running the neighboring water pollution control facility on Evansville Avenue.

North Haven Landfill Solar Field

Greenskies Renewable Energy is constructing a 324 KW DC solar farm at the North Haven landfill located at 1122 Universal Drive in North Haven at no expense to the Town. The North Haven project site is approximately 23 acres in size and is located at the closed landfill and adjacent to the wastewater treatment plant, and will be connected to both the sewer plant and power grid. This solar project is one of the largest in New England and will provide the Town with a way to save on its electricity costs by transforming an otherwise dormant capped landfill into a symbol of ingenuity and economic development. The solar panels will be capable of creating one-third of a megawatt of power in a day offsetting the power costs of town buildings. Future phases of the construction would add enough solar panels capable of creating one megawatt of power, with a possible maximum of nine megawatts with future development. Over 16 years, the one megawatt system is proposed to save North Haven an average \$100,000 per year. Freeman Companies provided land surveying, civil engineering and geotechnical engineering for the project, as well as two additional solar farm developments with Greenskies.

Middletown Mount Higby Reservoir Water Treatment Plant Solar Field

Freeman Companies provided comprehensive site development services to the Developer for a 254.1 kW ground-mounted solar field at the Mount Higby Reservoir Water Treatment Plant, an active water treatment facility located on Middle Road. The new installation will provide 100% of the power needed for daytime operations of the water treatment facility, saving the City \$ 359,000 on electricity costs over a 20-year contract.

RGS Energy: The Stop & Shop Supermarket Company – Rooftop Mounted Solar Photovoltaics Multiple Locations throughout Connecticut and New York



Freeman Companies provided rooftop surveying services to RGS Energy, the commercial and utility division of Real Goods Solar, Inc., a nationwide leader of turnkey solar energy solutions, for the development of 14 new roof-mounted solar photovoltaic arrays at Stop & Shop Supermarkets located throughout Connecticut and New York.

The communities included Ansonia, Berlin, Glendale, Hyland, Killingly, Medford, Monroe, New City, New Paltz, Ossining, Rhinebeck, Richmond, Tarrytown and West Hartford.

Stop & Shop is the first supermarket chain, and also the first company in the country to earn the U.S. Green Building Council's LEED Volume Certification under the Portfolio Program. Fifty-one (51) existing stores and close to 3.4 million square feet of stores have met the green and sustainable criteria of USGBC. Stop & Shop's LEED Portfolio Volume Certification was based on a number of green design and construction features, which include recycling, solid waste management, and water conservation, white reflective TPO roof membrane, daylight harvesting, T5 fluorescent lighting systems with dimmable ballasts and occupancy sensors controlled by state-of-the-art energy management systems, refrigeration systems with high-efficiency fan motors, low energy glass, and more.

Freeman Companies, LLC's scope of work included site visits; collection of electronic data for roof profile, obstructions, gas lines, building perimeter, parapet walls, any changes in elevation on roof area (step up or step down) and drains; collection of all data sufficient to describe all measurements in 3-D space; creation of a photo key characterizing obstructions (vents, rooftop equipment, pipes, drains, etc.); processing of data into a site map; and deliverable of a 2-D site map of points with attributes describing the object measured, height above the roof surface, and plan location in .dwg format.

Cornell University: Lake Source Cooling Initiative Ithaca, New York



Lake Source Cooling has been described as “one of the most significant environmental initiatives ever undertaken by an American university to promote a sustainable future.” With its startup in July 2000, Lake Source Cooling (LSC) upgraded the Cornell University central campus chilled water system to a more environmentally sound design that conserves energy and utilizes a renewable resource, the deep cold waters of nearby Cayuga Lake. Although its cost of \$58.5 million was a higher cost than simply replacing the existing chillers with new, Cornell viewed Lake Source Cooling as an important and sensible investment. It provides the University with a method of cooling that eliminates refrigeration equipment and its associated energy use; saves an average of 25,000,000 kWh per year versus previous cooling methods (representing an 86% reduction in campus energy use); reduces impacts on the environment from energy use (freeing the university from reliance on fossil fuels, for example), and eliminates any future problems with the new generation of refrigerants that have been designed to replace CFC’s.



Freeman Companies’ Director of Geotechnical Engineering Nate Whetten served as Project Management for Cornell’s innovative solution to the problem of supplying environmentally friendly cooling to the campus. The deep, cold waters of Cayuga Lake are used as a renewable cooling source by tapping the cold water at the bottom of the lake (at a depth of about 250 feet), which stays at a year-round temperature of about 41 degrees. Lake Source Cooling is a non-contact cooling design connected to the campus district cooling system. Mr. Whetten provided geotechnical services for 28,000 linear feet of 42-inch-diameters welded steel chilled water supply and return pipelines, and for the 10,000-foot-long, 63-inch-diameters HDPE marine pipeline.

A well proven cooling technology transfers the heat from the campus chilled water to the lake water through heat exchangers that separate the lake water and campus water- the two loops never mix. Because heat flows naturally from hot to cold, no extra energy is required beyond that needed to move the water through pipes. LSC is a long term solution to the university’s cooling needs. LSC is designed to last 75 to 100 years, over twice the typical life of chillers. LSC is cost effective in the long run due to its energy savings, long life, replacement of current chillers that are outdated due to their use of CFC’s, and because together with remaining non-CFC chillers and the Thermal Storage Tank, it will allow the university to meet cooling needs for many years to come.

Lake Source Cooling at Cornell was proposed in 1994 and approved by the New York State Department of Environmental Conservation in 1998. Construction began in March of 1999, and the project was completed in the year 2000.

U.S. Department of Energy: Brookhaven National Laboratory: National Synchrotron Light Source II (NSLS II) and the Interdisciplinary Science Building (ISB) Upton, New York



Freeman Companies, LLC Director of Geotechnical Engineering Nate Whetten, served as Project Manager for two major projects at Brookhaven National Laboratory in Upton, New York. He worked closely with the Prime Architect as well as the Owner from 2006 to 2011.

National Synchrotron Light Source II (NSLS II)

Project Management for conceptual design through final design and construction services for the National Synchrotron Light Source II (NSLS II) project. NSLS II provides a next generation intense light source (*State-of-the-art, medium-energy (3-billion-electron-volt, or GeV) electron storage ring that produces x-rays up to 10,000 times brighter than the NSLS*) for experimentation by the international science community. The project consists of a circular Ring Building with a half-mile circumference, an Injector Building, an IR Source Building, and a Joint Photon Science Institute Building, with a total footprint area on the order of approximately 515,000 square feet. Five Laboratory/Office buildings each with a total footprint area of approximately 30,000 square feet were added to the project and attach to the perimeter of the Ring Building. The LOBs provide laboratory and office space to support the facility.

The subsurface conditions consisted of fill overlying dense layers of silty fine sand (Sand A), and fine to coarse sand (Sand B). Recommended that the building be supported on spread footings bearing on Sand A or on Sand B after removal of the existing fill. Project challenges included identifying and quantifying in the contract documents the variable thickness of fill to be removed from the site and the elevation of suitable bearing soils. Challenges also included providing guidance to the design team and contractor regarding the location and depth of materials suitable for reuse as structural fill (Sand B). The project involved multiple phases of work starting in 2006 with Conceptual Design, followed by Preliminary Design, Final Design in 2008, and construction from 2009 through 2014. The project is scheduled to begin operations in 2015. Mr. Whetten's work was delivered on-time and on-budget, and successfully followed Brookhaven National Laboratory's strict Health & Safety, and QA/QC protocols

Identified by the U.S. Department of Energy as one of the "Facilities for the Future of Science," NSLS-II is a key tool for maintaining unsurpassed scientific capability within the DOE's national laboratory system. Facility design is anticipated to achieve LEED Gold Certification. Construction Cost: \$ 912 Million.

Interdisciplinary Science Building (ISB)

This new hub for energy research at Brookhaven Lab will provide customized laboratories for multidisciplinary research teams at the ISB working to tackle America's most pressing energy and environmental challenges. Specifically, scientists at the ISB will engineer and optimize materials with the goal of developing breakthrough technologies for batteries, biofuels, and solar panels.

Mr. Whetten served as Project Manager for geotechnical engineering services including subsurface explorations, engineering design, preparation of geotechnical design recommendations, preparation of geotechnical project specifications, and construction services. The project involved the construction of a three-story building with a footprint area on the order of about 50,000 square feet, and a basement laboratory. The subsurface explorations encountered up to about 6 feet of existing fill overlying natural sand. We recommended that the proposed building be founded on spread footing foundations with slab-on-grade floors supported by the natural sand or by compacted structural fill. The existing fill was removed within the building limits and replaced with compacted structural fill. ISB achieved LEED Gold Certification.

Housing

Experience and Qualifications

The Glendower Group (Housing Authority of the City of New Haven (dba Elm City Communities): Master Planning for the Redevelopment of Westville Manor and Surrounding Area, New Haven, Connecticut



Freeman Companies is providing Site/Civil Engineering, Landscape Architecture and Land Surveying services to the Prime Architect and Master Planning team for this important housing project. The firm has just completed its submission for the PDD (Planned District Development) application for zone change for the City of New Haven. The PDD boundary is comprised of roughly 15.3 acres, which includes 2.4 acres of city owned streets and 12.9 acres.. The developable portions outside the wetland regulated area is 15.1 acres. The land has proximity to West Rock State Park, Southern Connecticut State University, local navigable waterways and pedestrian pathways. The Westville Manor development currently has 150 units on site. Westville Manor redevelopment is a continuation of the larger vision at West Rock that The Glendower Group of the Housing Authority of the City of New Haven (Elm City Communities) has established for transforming public housing neighborhoods into high quality mixed income communities that retain rights to return for the low- income residents. Brookside and Rockview communities in

this area are examples of initial phases of this vision that has led to widespread transformation to their respective neighborhood fabric that has brought a positive impact on the lives of low income residents. Built in the mid-1980s Westville Manor has become increasingly obsolete. Westville Manor in its currently distressed state with outdated and undersized homes for families, unsafe premises, disconnected neighborhood and super blocks with indefensible spaces is ready for change and hence HANH has made a decision to redevelop this Land. To anticipate future funding requirements, HANH is proposing to redevelop 87 units of affordable housing and 22 units of non-restricted housing on the Westville Manor site. To anticipate future funding requirements, HANH is proposing to redevelop 87 units of affordable housing and 22 units of non-restricted housing on the Westville Manor site. HANH is proposing to construct 109 units of one- through five-bedroom units, along with related infrastructure and community amenities, on the current site of Westville Manor. These 109 units will be constructed in two distinct phases. It is currently anticipated that each phase will be funded through the use of either 4% and/or 9% Low Income Housing Tax Credits (LIHTC), state capital funds, public and private financing, and HANH MTW financing.

Housing Authority of the City of New Haven (dba Elm City Communities): Group III Rental Assistance Demonstration (RAD) Project: Matthew Ruoppolo Manor, New Haven, Connecticut



Freeman Companies was engaged by the Prime Architect in May 2017 for site and stormwater improvements at the Matthew Ruoppolo Manor Housing Complex. The 1.47 acre property is located in the Fair Haven section of New Haven, at 480 Ferry Street in close proximity to Interstate 91. One residential building houses 104 units for residents 62 years and older, residents with disabilities and senior disabled residents. The 6-story building is 88,738 SF and was completed 1971. In 2012, work was completed to convert 22 apartments into 11 merged, accessible units. Matthew Ruoppolo Manor is an important component of the ECC Rental Assistance Demonstration Program. Construction cost for all proposed improvements is \$ 3.3 million. Freeman Companies'

work addresses drainage, sewer and stormwater problems of long standing, asphalt deterioration, lighting and gate controls, and other identified concerns. Additional scope has involved stormwater detention design, sanitary sewer design and a reflective heat impact plan.

Housing Authority of New Haven/Michaels Organization: West Rock Redevelopment (Phase I Rental), Brookside Avenue, New Haven, Connecticut



Construction layout surveying services to the Prime Site Contractor for the West Rock Redevelopment Project (Phase I) consisting of 101 rental units within 28 multi-family homes, new roads and utilities, and new 3,500 SF Management/Maintenance Building with community meeting space. Phase I represents a portion of this City Housing Authority redevelopment project, designed to be a community versus a “housing development.”. At full build-out, the project will provide 433 newly constructed dwelling units (to rent and to own) built over multiple phases of development, financing and construction.

Housing Authority of New Haven/115 Edgewood NavCapMan, LLC: Dwight Cooperative Housing (Redevelopment of the former Dwight Gardens Complex), New Haven, Connecticut



This is the redevelopment of the severely deteriorated Dwight Cooperative, a cooperative with low- and moderate-income members consisting of 80 housing units, of which only 27 units were determined to be habitable. The existing housing units are garden style, located in 9 buildings spread out throughout the site. The site consists of approximately 2.96 acres, and is bounded by Garden Street to the west, Edgewood Avenue to the south, and private residential properties to the east and north. Redevelopment will transform the severely distressed cooperative into a new mixed-income community which stabilizes this vital New Haven neighborhood, located in close proximity to the iconic New Haven “Green”. The development represents a mix of public and private financing with an aggressive rehabilitation schedule that will

transform the structures into a healthy and livable complex. In October 2015, the Connecticut Department of Housing and the Connecticut Housing Finance Authority awarded the project a \$ 3.75 million Competitive Housing Assistance for Multifamily Properties’ (CHAMP) grant. Freeman Companies, LLC has provided Civil Engineering, Permitting, Utility Investigation, Landscape Architecture, Land Surveying, and Geotechnical Engineering services to the Developer. In addition to the minimum repairs required by HUD, the Developer pledged to complete substantial rehabilitation to all eighty (80) of the housing units. In addition to interior renovation, work has also involved installation of energy efficiency improvements, upgrade of site amenities including access/driveways, fencing, plantings, sidewalks, drainage and lighting. Site Plan Approval was obtained from the City. The design team also worked collaboratively with the Greater New Haven Water Pollution Control Authority which was bound by a consent decree from the State to prevent combined sewer overflows, and because of this, required more stringent stormwater management guidelines than those required by the City (2 Inches over 6 Hours as opposed to One Inch over 24 Hours).

ELM City Communities/Housing Authority of the City of New Haven: Fairmont Heights Housing, New Haven, Connecticut



Freeman Companies’ Senior Landscape Architect Heidi Berg Hajna, PLA, ASLA acted as Lead Consultant for this Project when employed by TPA Design Group. Site analysis and concept plan for the expansion and renovation of a public housing complex. The concept was to create a unified community by adding a wing linking the two separate buildings. Floors above the community room would capitalize on the views of Long Island Sound. Site design elements include pedestrian and vehicular circulation improvements to enhance the walkability and connection to the neighborhood.

City of Hartford – Economic and Neighborhood Development/Brownfields: Brownfield Soil Remediation and Environmental Closure of 70 Edwards Street and New Housing Development, Hartford, Connecticut



Environmental assessment and abatement project at a City owned Brownfield designated site located at 70 Edwards Street in the City of Hartford. Funding is provided through an EPA Clean Up Grant. Project activities include performing a soil remediation delineation, preparation of an Analysis of Brownfield Cleanup Alternatives, Community Relations Plan, Remedial Action Plan, plans and specifications, assisting the Client with contactor solicitation and award, performing community outreach and other public notifications regarding project

remediation activities, oversight of soil excavation, post excavation soil sampling, backfilling of excavation with clean fill and site restoration, entering the site into a Connecticut Voluntary Remediation Program, preparation of a Remedial Action Report and preparation of LEP verification documentation that all work has been conducted in accordance with applicable local, State and Federal regulations. In June 2017, Freeman Companies was engaged to provide land surveying and comprehensive site development services for reconstruction of this, 70 Edwards Street parcel as well as an adjoining parcel, at 76 Edwards Street, totaling 0.75 acres. Freeman engineers will work with the developer to provide conceptual design, schematic design, design development, contract documents, bidding and permitting assistance.

Housing Authority of the City of Hartford in collaboration with Penrose Properties, LLC and The Cloud Company: The Westbrook Village Housing Redevelopment, Hartford, Connecticut



Freeman Companies is providing land surveying, civil engineering, landscape architecture, geotechnical engineering, traffic engineering and environmental services to the Prime Developer for the redevelopment of this major housing complex. Constructed in multiple phases, Phase I will involve 72 rental units within 6 residential buildings. At full build out the development will provide a total of 360 new living units. The project also involves accommodation of a new retail/commercial component. Freeman Companies has provided expertise to the Developer in preparation of the LIHTC application and coordination with

various departments within the City of Hartford government. Freeman Companies also shepherded the approval of the Master Plan and Phase 1 site plan.

Housing Authority of the City of Hartford in collaboration with Overlook Village Redevelopment Associates, LP and the JHM Group of Companies: Willow Creek – the Chester A. Bowles Park Housing Redevelopment, Hartford, Connecticut



Freeman Companies, LLC was engaged by Overlook Village Redevelopment Associates, LP in collaboration with JHM Group of Companies and the Housing Authority for The City of Hartford in October 2015 to provide Geotechnical Engineering, Environmental and Hazardous Building Material Services for Demolition of the Chester Bowles Park housing complex located at 3 Berkeley Drive in Hartford. The site consists of a 52.81-acre parcel of land and consists of 60 2- story residential apartment buildings which are divided into 410 units. Freeman Companies' staff was responsible for extensive testing and reporting as part of the pre-demolition investigation. Environmental evaluation consisted of the samples of soil and groundwater for the presence of volatile aromatic hydrocarbons (VOCs), extractable total petroleum hydrocarbons (ETPH), poly aromatic hydrocarbons (PAHs), total, leachable RSR-listed (CT DEEP's Remediation Standard Regulations) metals); as well as the assessment of geologic information, remediation standard regulations, soil reuse/disposal, wastewater handling, environmental remediation and disposal costs. HBMI staff was also responsible for preparing detailed technical specifications for the removal of lead and asbestos containing material. Freeman Companies will



also be providing on-going assistance and monitoring services to the client for monitoring and inspection of abatement activity during demolition. Phase 1: Home Ownership: 29 units with 8 detached garages and 13 residential buildings; Rental: 16-19 residential buildings totaling 62-72 living units; at full build out: 410 living units

Spectra Boutique Apartments (95-101 to 111 Pearl Street Redevelopments), Hartford, Connecticut



Freeman Companies is providing Civil Engineering and Landscape Architecture to the Prime Architect for the major redevelopments of 95-101 to 111 Pearl Street in downtown Hartford, named Spectra Boutique Apartments. This proposed \$ 51 million project converts two “derelict” downtown buildings and creates physical and aesthetic connections between them, creating one, unified and optimistic, new development for the City. The project proposes as much as 15,000 square feet of service, entertainment and retail space at 95-101 Pearl St. and 9,500 square feet of street-level retail space at 111 Pearl St. Combined, the developments will offer new 258 market-rate studios, one-, and two-bedroom apartments. Site amenities include a new loading zone, new rear entry, bike storage, new sidewalk and outdoor seating, new trees and landscape plantings including an exterior garden. Tenants began leasing in 2017 and the project is expected to be fully completed in 2018.

Adriaen’s Landing, Hartford, Connecticut



Director of Geotechnical Engineering, Nate Whetten, directed Multiple Iterations of this landmark redevelopment for the City of Hartford. Capital Properties Project: Project engineer for Retail Buildings A and B which were to be constructed within the Adriaen’s Landing Retail/Residential component of the original project. Retail Building A includes five floor levels, and Building B includes six stories. Both buildings have basement levels, and the buildings abut parking garages to the north and south. Project challenges include evaluating the complex subsurface conditions at the site, and developing several building foundation alternatives to support the heavy column loads. Front Street: Project Manager for the construction of the Retail/Residential portion of the Adriaen’s Landing project (that was recently constructed). Provided geotechnical recommendations for design and construction of structures and roadways. Two new roads, Front Street and Constitution Way, are created as part of this project requiring minor cuts and fills. Reviewed previous test boring information and performed supplemental test borings

with laboratory testing of rock core samples and soil samples and prepared recommendations for design. Evaluated alternatives, using the proposed roadway structures, as “engineered controls” to achieve compliance with the project Remedial Action Plan. The project has significant and relatively complicated earthwork requirements, which required strict monitoring to achieve project success.

Northland Investment Corporation: Town Square aka “Hartford 21”, Hartford, Connecticut



Freeman Companies, LLC’s President Rohan A. Freeman, PE, LS served as Project Surveyor for all survey services for the redevelopment of the Hartford Civic Center and Hartford 21, which stand as key components of the Six Pillars of Progress for downtown Hartford’s revitalization. Freeman Companies, LLC’s Director of Geotechnical Engineering, Nate Whetten, also directed Geotechnical Engineering from early investigations through construction of the \$ 155 million, 36-story, 430-foot high, 961,000 SF steel-framed apartment tower, located within the southeast corner of the Hartford Civic Center. Consistent with the existing Hartford Civic Center, the “Hartford 21” tower has three basement levels. New foundations and basement floor levels were constructed, and the existing basement walls remain. Project challenges included: developing foundation design criteria for support of the heavy interior column footings, evaluating support requirements for existing exterior and interior

basement walls during demolition of existing floors; construction of the apartment tower, and developing guidelines for excavation of bedrock for foundations, elevator shafts, and lowered floor grades.

City of Hartford: Development Concept for City Owned Development Site at Park and Main Streets, Hartford, Connecticut

Creation of a development concept for possible redevelopment of land parcels A and B, totaling 11.8 acres, known as Park + Main in downtown Hartford. Planned as an appropriately-scaled, mixed-use community, Park + Main improves the urban fabric of a crucial junction within the City, engages the local community through appropriate retail and commercial offerings and re-energizes as well as helps to better connect the area to Downtown and the surrounding neighborhoods. This Development Concept, together with the contemplated master plan, envisions Park + Main as an efficiently designed, manageable pedestrian environment of appropriate design and orientation. The project encourages walkability with the re-introduction and extension of a thoughtful mix of placemaking oriented ground floor uses fronting both Park + Main Streets (22,300 new commercial square feet) together with new residents (108 new apartment units) on the upper floors of the development plus associated off-street parking. Ultimately, the proposed Development Team envisions a better connected, dynamic neighborhood flowing with people and ideas, housing and employment, liveliness and delight. Design and planning efforts towards a truly dynamic and livable neighborhood are intended to evolve as dialogue with the City and the community evolves.



Housing Authority of the City of Bridgeport, doing business as Park City Communities – “On-Call” Assignment: Parking and Site Improvements to CF Greene Homes, Bridgeport, Connecticut

Freeman Companies has worked with Park City Communities since early 2017 as one of three “On-Call” A/E consultants. A recent task assignment involved parking and site improvements at CF Greene Homes, located adjacent to the PCC Executive offices on Highland Avenue in Bridgeport. Work involved detailed investigation of the entire CF Greene parcel, and adjacent PCC office parcel, as well as nearby streets. Freeman Companies prepared a detailed land survey and Freeman site engineers and landscape architects developed two concept plans and associated cost estimates for the Client’s selection and approval. In addition to the site improvements, the scope also involved the design of a new security entry gate for the PCC office site. Construction on the gate will be complete in 2017. All design complies with Uniform Federal Accessibility Standards (UFAS).

Housing Authority of the City of Bridgeport, doing business as Park City Communities – “On-Call” Assignment: Environmental Assistance for Preparation of Various HUD Applications, Bridgeport, Connecticut

Freeman Companies has worked with Park City Communities since early 2017 as one of three “On-Call” consultants. An ongoing task assignment has involved close collaboration with PCC and project developer Connecticut Community Renewal, LLC (a partnership of JHM Group of Companies, Richman Associates and Park City Communities) for environmental assistance on several HUD applications, including two Inventory Removal Applications (HUD 52860), one Mixed Finance Application (HUD 50157) and Form 7015.15, Request for Release of Funds and Certification. Multiple environmental documents have been prepared to support the applications, including the NEPA Compliance Document, Phase I ESA, Pre-demolition HBMI Investigation, Hazardous Building Materials Abatement Monitoring and Demolition Report, and Environmental Evaluation and Materials Management Report.

Bridgeport Housing Authority: US. Department of Homeland Security/Federal Emergency Management Agency/National Flood Insurance Program: Elevation Certificates, Bridgeport, Connecticut

Freeman Companies, LLC was contracted by the Prime Consultant to Prepare FEMA Elevation Certificates for approximately 49 Buildings located within 2 City of Bridgeport Housing Authority Sites: Marina Village Apartments and the P.T. Barnum Apartments. Each Elevation Certificate must contain detailed property information, flood insurance rate map information, building elevation information (survey required), surveyor certification, property owner certification, community information, and building photographs. This information is being collected for the primary purpose of estimating the risk premium rates necessary to provide flood insurance for new or substantially improved structures in designated Special Flood Hazard Areas. The Elevation Certificate is an important administrative tool of the National Flood Insurance Program (NFIP), to be used to provide elevation information necessary to ensure compliance with community floodplain management ordinances, to determine the proper insurance premium rate, and to support a request for a Letter of Map Amendment (LOMA) or Letter of Map Revision based on fill (LOMR-F).

Bridgeport Community Renewal Associates, LP in collaboration with Park City Communities and the JHM Group of Companies: Marina Village Housing Redevelopment (Demolition and Remediation Oversight), Bridgeport, Connecticut

Freeman Companies, LLC was engaged by Bridgeport Community Renewal Associates, LP in collaboration with Park City Communities and the JHM Group of Companies in mid-April 2015 to provide Geotechnical Engineering, Environmental and Hazardous Building Material Services for Phase I Demolition of the Marina Village housing Complex located at 400 Iranistan Avenue in Bridgeport. All investigation and reporting was completed by the end of May 2015, for submittal to the owner and client and in sufficient time to be included in the demolition contractor bid package. The site consists of two adjacent parcels totaling 15.9 acres, bounded on the north by South Avenue and Railroad Avenue, on the east by Park Avenue, on the south by Johnson Street and Ridge Avenue, and on the west by Iranistan Avenue. Columbia Street runs between the two parcels through the middle of the site. The Marina Village complex is a 406 unit development built in 1939. The units are one story flats and two story dwelling combined in 8, 12, 13 or 14 unit bar buildings. This first phase of redevelopment will involve the demolition of the portion of the site bounded by Park Avenue, Railroad Avenue, Project Street (Columbia), and Johnson Street (that is, buildings numbered 32-43). The site has had a long history of heavy industrial and manufacturing operations prior to its development as a residential housing complex. Industrial activities at the site have included the Bridgeport Malleable Iron Works, a metal foundry; the Hotchkiss Sons' Manufacturers Curry Combs & Company which conducted scouring, tempering and japanning of various metals; and the Reliable Steel Drum Corporation which conducted the reconditioning of steel drums. Freeman Companies' staff was responsible for extensive hazardous building material testing and reporting as part of the pre-demolition investigation. Subsurface investigation testing consisted of the samples of soil and groundwater for the presence of volatile aromatic hydrocarbons (VOCs), extractable total petroleum hydrocarbons (ETPH), poly aromatic hydrocarbons (PAHs), total, leachable RSR-listed (CT DEEP's Remediation Standard Regulations) metals and polychlorinated biphenyls (PCBs); as well as the assessment of geologic information, remediation standard regulations, soil reuse/disposal, wastewater handling, environmental remediation and disposal costs. Based on the results of the assessment activities, a specification for abatement of identified asbestos and lead based paint materials along with the demolition of the site related structures which incorporated all required phasing, sequencing, logistics, site controls, earth work, and other site/project specific requirements. During the implementation phase of the project Freeman Companies provided oversight and monitoring of all pre-demolition abatement work with state-licensed monitors. As demolition work preceded Freeman Companies supervised compliance with specifications, provided updates to project owner, coordinated activities with utility providers, and reviewed conformity to any local permits in effect. *Freeman Companies also provided similar environmental, geotechnical and HBMI services to the JHM Group of Companies for their redevelopment of sites in Hartford, Stamford and Darien.*



Faith Asset Management, East Hartford, Connecticut

Freeman Companies is providing Land Surveying and Civil Engineering services to Faith Asset Management (of East Hartford) for multiple grading and drainage improvements to the parcel which contains 32 units in multiple, mixed-unit structures. Tasks involve boundary survey research and title review, boundary survey (in compliance with Class A-2 and ALTA/ACSM standards), topographic survey, wetland flagging and recordation, the setting of iron pins not currently monumented, and comprehensive design development and construction documentation for improvements. This project is currently working on an accelerated schedule for both survey and design: a total of sixteen (16) calendar days.

New Horizons Village – Master Plan for Rehabilitation and Expansion, Unionville, Connecticut



Freeman Companies is providing land surveying, landscape architecture and civil engineering to the Prime Architect for review of existing conditions and master site planning. The scope of work has involved topographic and boundary survey; wetlands delineation; land assessment; site programming; site concept planning; and close coordination with the architect and owner. The resulting "Recommended Site Improvements Plan" also included a detailed explanation of costs.

Bella Vista Senior Living Community, New Haven, Connecticut



Freeman Companies' Senior Landscape Architect Heidi Berg Hajna, PLA, ASLA acted as Lead Consultant for this Project when employed by TPA Design Group. Site analysis, preliminary engineering and landscape architecture design for the proposed addition of 399 units of elderly housing within the Bella Vista community. The building program called for one building consisting of 133 units and a second building consisting of 266 units, both of which were set on top of a three level parking structure. Site improvements include elimination of a surface parking area, creation of park-like settings, pedestrian plaza and perimeter walkways. A state-of-the-art stormwater management system is proposed for all new paved and roof areas.

Newhall Street Neighborhood Remediation Project, Hamden, Connecticut

Freeman Companies' Senior Landscape Architect Heidi Berg Hajna, PLA, ASLA acted as Lead Consultant for this Project when employed by TPA Design Group. As part of the remediation design for the Newhall Street Neighborhood in Hamden, a site survey was completed identifying existing landscape features (trees, shrubs, perennials, fences, garden borders/edging, retaining walls, driveways, sidewalks, etc.). The Newhall neighborhood consists of approximately 300 individual properties on approximately 64 acres. The next phase of the project involved preparing a detailed inventory of landscape features at 75 of the individual properties that would be directly impacted by remediation. A photographic inventory and replacement costs were developed for 165 plants and 100 other landscape features.



Neighborhood Housing Services of Waterbury: Development of Adams Street Between Hawkins and Grove Streets, Waterbury, Connecticut

NHSW has undertaken a comprehensive neighborhood revitalization effort known as the Crownbrook Homeownership Initiative Redevelopment Plan (CHIRP), with housing development as the cornerstone, support by homebuyer, homeownership and financial education, landlord training, economic development, and a Community Building and Engagement program. The first phase of the project involves redevelopment of Adams Street which consists of seven derelict, abandoned or vacant properties to be demolished and replaced by six newly constructed, sustainable, two-family homes occupying 16, 19, 22-24, 31 and 35 Adams Street, and 30 Grove Street. A greenspace, consisting of a community garden, functions and gatherings, and a geothermal field will also be located on 30 Adams Street (presently occupied by two burned out, multi-family homes). Freeman Companies is providing comprehensive Environmental Services to the Owner for pre-demolition investigation and remediation planning. The overall goal of the Adams Street Redevelopment Project is to ensure that contamination does not threaten public health and the environment during and after redevelopment of the sites/street. The objective of the project is to identify the contaminants that may exist on the sites and develop the most responsive, and economical, remediation options. The work efforts for this project fell into the following tasks: Performance of Phase I Environmental Site Assessment; Development of environmental sampling and laboratory analyses based on CT DEEP's Reasonable Confidence Protocols (RCP) guidance; Development of Phase II ESA Work Plan including Health and Safety Plan; Performance of Phase II Invasive Site Investigation; Drafting of Final Phase II Report with estimated cost of cleanup by parcel; Development of Cleanup and Remediation Options and Drafting/Preparation of Final Written Work Plan. Freeman Companies' LEP has also conducted Community Outreach / Environmental Education meetings to: 1. inform the public of the ESA plan and why the environmental plans are being conducted, and; 2. to inform the public of the findings and the recommended remediation plans. The Connecticut Department of Housing, the Waterbury Development Corp., Federal Home Loan Bank of Boston and other sources were responsible for approximately \$ 3.5 million of funding.



Community Renewal Team: Veterans Landing, VAMC Campus, Newington, Connecticut



The new facility will be a state-of-the-art, affordable assisted living residence comprised of 103 studio and one-bedroom apartments for older veterans and their spouses. Resident amenities will include activity rooms (including a library and computer lab); convenience store; on-site medical care and physical therapy; restaurant-style dining room; and transportation for shopping, medical appointments and field trips. Freeman Companies, LLC provided integrated Civil, Geotechnical, Environmental Engineering and Wetlands Services to the Prime Architect and Developer for design of this new three-story, 100,000 SF building on an approximately five acre site at the Newington Veterans Administration campus. Engineering work involved zoning investigation, the development of a site demolition plan, site layout plan, two conceptual site plans and a landscape planting plan, utility investigation, grading and drainage plan, site hydrology, site utility plan, site sedimentation and erosion control plan, site details and notes, and a comprehensive engineering report and quality control review; surveying involved preparation of boundary and topographic surveys; geotechnical investigation involved a subsurface exploration program, laboratory testing, geotechnical evaluations and comprehensive engineering report; and environmental services included wetland delineation and reporting as well as a comprehensive Environmental Site Assessment – Phase I for a portion of the parcel suspected to have recognized environmental conditions related to the suspected release of hazardous substances or petroleum products. Other Freeman Companies services included a Site Lighting/Photometric Plan, Traffic Engineering, and Town Planning and Zoning Permitting. The project is designed to LEED Silver standards for energy and environmental design.

Housing Authority of the City of New Britain: Mount Pleasant Housing, New Britain, Connecticut



Freeman Companies' Senior Landscape Architect Heidi Berg Hajna, PLA, ASLA acted as Lead Consultant for this Project when employed by TPA Design Group. Site analysis and concept plan alternatives for the redevelopment of a public housing complex. The concept plans incorporated townhouse units, mixed use gateway building and recreation area. Site design elements include creation of small defensible neighborhood clusters, pedestrian and vehicular access and circulation improvements to enhance the walkability and connection to the Broad Street commercial neighborhood, adjacent training center and CTFastrak busway.

Housing Authority of Ansonia: Riverside Apartments, Ansonia, Connecticut



Freeman Companies' Senior Landscape Architect Heidi Berg Hajna, PLA, ASLA acted as Lead Consultant for this Project when employed by TPA Design Group. Site analysis included the evaluation of the impact of the 100-year and 500-year flood levels on future redevelopment of an existing 160 unit apartment complex. Redevelopment concept plans explored raising the site above the 500-year flood level, creating areas of open space, and providing pedestrian linkages to downtown and the train station. Townhouse units were oriented to the streetscape, open space and Naugatuck River. The Ansonia Housing Authority, Tinney Community Center,

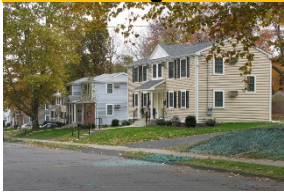
and apartment units were unified in one building with orientation to a new park space, the river and downtown.

Trumbull Housing Authority: Stern Village Elderly Housing Complex, Trumbull, Connecticut



Freeman Companies' Senior Landscape Architect Heidi Berg Hajna, PLA, ASLA acted as Lead Consultant for this Project when employed by TPA Design Group. Analysis of site drainage issues and landscaping at the 192-unit Stern Village Elderly Housing complex operated by the Trumbull Housing Authority. Proposed grading and drainage improvements addressed localized flooding issues affecting 30 units. New landscape plans enhanced the appearance of public spaces and rehabilitated existing plantings around residential units to improve their appearance and increase natural lighting within the units. Construction plans and specifications were provided to the Housing Authority for use in obtaining contractor bids.

Dutton Heights Housing, Bristol, Connecticut



Freeman Companies' Senior Landscape Architect Heidi Berg Hajna, PLA, ASLA acted as Lead Consultant for this Project when employed by TPA Design Group. Site analysis through construction drawings for renovation of an existing 82 unit public housing project for submission to the Connecticut Housing Finance Authority (CHFA). Plans included designs for a community building and management office, creation of accessible units, grading to solve drainage and accessibility concerns, landscaping and a central playground.

Far Mill River Condominium, Stratford, Connecticut



Freeman Companies' Senior Landscape Architect Heidi Berg Hajna, PLA, ASLA acted as Lead Consultant for this Project when employed by TPA Design Group. Analysis of mature landscaping of a 318 unit condominium complex. Prepared overall landscaping recommendations for enhancement of the property including removal of invasive species, overgrown, excessively pruned, or diseased material. Detailed renovation planting plans were developed for a typical unit cluster and the clubhouse. Planting design addressed screening and shade tolerance and provided seasonal interest,

low maintenance, deer resistance and native species tolerant of specific site conditions. Provided the Far Mill River Condominium Association a general recommendations plan for landscape improvements throughout the woodland, riverfront property. The original landscape plantings had matured and provided privacy between the units yet had become overgrown and unmanageable. Specific planting plans were provided for the first phase of improvements at the clubhouse and as a prototype for the building clusters. Native and deer resistant species were recommended as well as plants with year round seasonal interest.

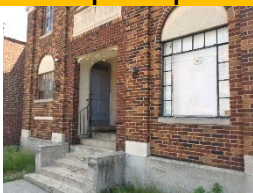
Relocation of the Historic Hoyt Barnum House, Stamford, Connecticut



The Hoyt Barnum House was built in 1699 by the children of the founders of Stamford. In 2016 the house was moved from its original site on 713 Bedford St to the new location at 1508 High Ridge Road on Historic Preservation Society property. The City of Stamford decided to move the historic structure to make room for a New Police Station. Freeman Companies' Landscape Architecture Studio provided site and civil design assistance, helping to recreate

the characteristics and conditions of the original site at the house's new location. This project will allow the City of Stamford to continue to develop and grow as a safe modern city while at the same time preserving an integral piece of the city's history.

Norwalk Housing Authority and Norwalk Redevelopment Agency: NEPA Environmental Review and Statutory Checklists – Multiple Properties, Norwalk, Connecticut



Freeman Companies was engaged by the Norwalk Housing Authority and Norwalk Redevelopment Agency (assuming the responsibilities of HUD) as Licensed Environmental Professional to prepare Environmental Review Records (ERRs) necessary for the commitment of funds for capital projects subject to regulation by 24 CFR Part 58. ERRs for 68 and 70 South Main Street were prepared in compliance with the requirements of the National Environmental Policy Act (NEPA), Council on Environmental Quality (CEQ) regulations and title 24, Part 58 of the Code of Federal Regulations. The LEP's scope included: Preparation of the appropriate level ERR for Part 58 project, each ERR containing all the environmental review documents, public notices and written determinations or environmental findings required by NEPA, CEQ Regulations and 24 CFR Part 58. In particular, each ERR is to contain the project and activities that have been determined by the Agency to be part of the project; evaluation of the effect of the project or the activities on the human environment and the effect of the human environment on the project; documentation compliance with the applicable statutes and authorities; and

recording of the written determination and other review findings as required by relevant authorities. Each ERR also contains verifiable source documents and relevant base data used or cited in EAs, EISs or other project review documents. Both properties are located within the Norwalk HUD Choice Neighborhood Initiative District and the Norwalk Redevelopment Agency plans to acquire the two neighboring sites for mixed-use development including development of affordable housing. The sites are located within one block from the South Norwalk Train Station (the MetroNorth New Haven line) within the TOD Redevelopment Plan Area and walkable within a South Norwalk commercial area.

Centerplan Development: “College & Crown” Mixed Use Development, New Haven, Connecticut



Freeman Companies provided Geotechnical Engineering for the \$50 million “College & Crown” mixed-use development, revitalizing the city block where George and College Streets intersect, located at the nexus of the area’s primary business district, Yale University, and New Haven’s major retail corridor. The new six-story mixed-use development will have 160 market- rate apartments and 20,000 square feet of street-level retail space. An underground parking garage will have 138 parking spaces while storage for another 22 cars will come in the form of “stacked” parking—mechanical lifts to park cars on top of others. Freeman Cos. engineers were responsible for the design and implementation of a subsurface exploration program consisting of 8 test borings, up to 50-100 feet in depth, as well as geotechnical design and construction recommendations. 20-foot deep excavation for the below grade parking was conducted very close to existing buildings along the western and northern property boundaries, and close to Crown, College, and George Streets along the northern, eastern and southern property boundaries, and special design measures were required to protect these structures. Challenges included designing temporary excavation

support to protect four existing buildings located immediately adjacent to the site, which were founded on spread footings at higher elevations than the proposed new basement level. A stiff excavation support system was specified to limit vertical and lateral movements. Temporary lateral support was specified to protect adjacent streets, sidewalks, and underground structures. Soils at the site are susceptible to settlement from vibration, so excavation support was installed using methods without vibration. Engineers engaged in important community relations with neighbors and neighborhood groups concerning the development.

Harvard University: Old Quincy Renovation (Renewal Pilot Project #1), Cambridge, Massachusetts



Building and land surveying and construction layout services to Dimeo Construction Company for this very important “Renewal Pilot Project #1” for Harvard University’s planned \$ 1-billion Undergraduate House Renewal Program. Freeman Companies provided site survey, construction stakeout and project controls. Stakeout involved site appurtenances inclusive of curbs, parking areas, buildings, light pole bases, clearing limits, etc. Site grades were also verified and material quantities checked. LEED Gold.



University of Massachusetts Building Authority: Commonwealth Honors College Campus, Amherst, Massachusetts

Building and land surveying and construction layout services to Dimeo Construction Company for the University of Massachusetts, Commonwealth Honors College Complex, a new, William Rawn Associates | Architects, Inc.-designed \$ 186.5 million residential and teaching “precinct” in the heart of the campus to serve Commonwealth Honors College. The facility is designed to be one of the best public university complexes of its kind in the nation, and includes 1,500 beds, nine classrooms, faculty residences along with space for gathering, advising and administration of the program. The project’s design involves a seven (7) Building Multistory Residential Complex, sited on a steep slope overlooking the athletic fields. The precinct creates a sequence of four-to-six story buildings organized around courtyards that step up the hill. Freeman Companies supplied up to three (3) survey crews per day on this project, which included all phases of construction stakeout, quality control of construction layout by others, quantity estimation, deformation monitoring, and as-built location of build faces and window installation. LEED Silver Minimum.



Fieldstone Village, Orange, Connecticut

Fieldstone Village is an active adult community that is approved and currently under construction in Orange, Connecticut. Freeman Companies provided revised site development plans and submitted them to the Town for the purpose of Town review and permitting. The revised site development plans included relocating the proposed clubhouse, proposing different unit prototypes, and revising some site grading due to the removal of a retaining wall. Other services include providing Site and Unit Declaration Plan certification to assist in sales of the site units and also to provide survey services, as needed.



Collier Place, Newington and Wethersfield, Connecticut



JPG Partners, LLC is proposing to construct a 120,000 square-foot, 3-story building, which will consist of 150 units of multi-family apartment housing on approximately 12 acres of undeveloped land on the Berlin Turnpike. Access to and frontage for the development is on the Berlin Turnpike and is located in the Town of Newington. The zone in Wethersfield is Regional Commercial (RC), which calls for mixed-use high density development. In Newington the zone is Business-Berlin Turnpike (B-BT), which calls for commercial use. Freeman Companies has developed a plan to demolish the existing vacant facility to allow for the design of apartment units on the Wethersfield portion of the property, with an associated clubhouse and pool to be located on the Newington portion. The clubhouse will have a real estate rental office, a conference room, an office, a gym, a recreational room and a meeting room for patrons of the apartments.

Acme Mills Redevelopment, Killingly, Connecticut

Freeman Companies, LLC's President Rohan A. Freeman, PE, LS served as Project Manager responsible for providing engineering design, local and state permitting, and traffic engineering for a private developer in connection with the redevelopment of the Acme Mills for mixed-use purposes. Responsibilities included engineering design and traffic engineering services, conducted local and state permitting, and provided construction administration for a private developer in connection with the proposed Mill redevelopment. Performed value engineering on previously designed portions of the project to net the owner a construction cost savings of approximately \$2 million. Designed a pump station and over 1 ½ miles of sanitary sewer and water main systems to support the project.

Finisher's Court: Redevelopment Of Old Mill Crossing Into Residential Apartments, East Berlin, Connecticut



Freeman Companies was selected to provide civil engineering, land surveying, and related services relative to the proposed redevelopment of Old Mill Crossing on Main Street in East Berlin, Connecticut. An existing 15,000 SF building, which previously served as a factory for a metal finishing supplier, will be demolished to allow for the design of 19 units of townhouse-style apartments, each with its own garage and entrance. New ingress and egress will be designed for the site from Main Street, maintaining the existing access drive on Route 372.

Overlook Life Care Community, Charlton, Massachusetts

Freeman Companies, LLC's President Rohan A. Freeman, PE, LS served as Project Engineer responsible for the grading, utility, layout, stormwater management and permitting for the expansion of the Masonic Home Health Care facility in Charlton. The expansion involves a new Health Center, Rest Home, Chapel, Independent Living Apartments (200 units) and Independent Living Cottages (100 units). In addition, the existing Health Center/Rest Home will be demolished. This had over a mile of sanitary sewer extensions to accommodate the project.

The Seasons of Salisbury, Holden, Massachusetts

Freeman Companies, LLC's President Rohan A. Freeman, PE, LS served as Project Engineer responsible for the grading, drainage, stormwater management, vertical and horizontal roadway alignment, and utility coordination for sanitary sewer, water, and electric utilities. The Seasons of Salisbury is a 42-acre, 100-unit upscale condominium development that connects to a community-wide trail system, clubhouse, garden areas, and open-spaces

The Shops at Great Hill, Mixed-Use Development, Waterbury, Connecticut

Freeman Companies prepared a detailed due diligence package for submittal to the City of Waterbury and Waterbury Development Corporation for the 164-acres of undeveloped land located east of South Main Street on the Waterbury/Naugatuck border. The anticipated development will be a public/private partnership between the City of Waterbury, Borough of Naugatuck and the developer to provide a destination retail development featuring space for anchor tenants with a mix of shops, restaurants and entertainment featuring local and national businesses. Two conceptual plans were prepared for the site, each calling for approximately 700,000-square feet of commercial building area. Grading analyses were performed to estimate the amount of rock excavation and overall site work necessary to turn the existing wooded hill into a mixed-use destination. The site provides numerous design challenges including steep grades, rock outcroppings, wetlands, extension of utility mains and off-site roadway improvements (including signalization and additional travel and turning lanes) along South Main Street, Platts Mill Road, Sheridan Drive and the Route 8 on/off ramps.



University of Hartford – Harry Jack Gray Mortensen Library Addition (Now Harrison Libraries) and Allen Library Relocation Hartford – West Hartford, Connecticut



Image Courtesy of Sasaki Associates

Freeman Companies civil staff assisted the prime architect on this historic addition of what is now the Harrison Libraries. This project includes a 3-story addition to the north side of the existing Harry Jack Gray Mortensen Library building of approximately 9,000 SF with an approximate 5,000 SF footprint. Additions include a new “Learning Commons” corridor on the entry level, containing academic study spaces rich with technology. The second level of the addition features study balconies overlooking the learning commons below. Repairs in various existing rooms also took place, including offices, lounges, conference rooms, classrooms, and the entry level Starbucks; and second level alterations including conversion of the original front hallway and bathrooms and reconfiguration of the study space. Relocation of the Allen Library also took place. This “library within a library” on the garden level of the building houses music and dance materials, with four listening rooms and two seminar rooms. Floor-to-ceiling windows facing the Park River are another new feature of this relocation. Freeman Companies civil engineers’ scope of work included, but was not limited to, schematic design, grading and drainage plans, site layout, and construction plans. With many factors being incorporated into the addition and Allen Library relocation, our team is proud to announce the project was completed within schedule. It was announced the Mortensen Library has been renamed to the Harrison Libraries after University of Hartford President Walter Harrison following his retirement in June 2017.

Owner/Client: University of Hartford/Sasaki Associates
Services: Civil Engineering
Years Services Provided: 2016-2017
Prime or Sub: Sub

University of Hartford – New Natatorium Courtyard Hartford – West Hartford, Connecticut



Aerial Before

Freeman Companies provided land survey, landscape architecture and civil engineering to the Prime Architect, for the creation of this new courtyard located in front of the indoor pool. The work is an important student amenity in the major, 10,140-square-foot renovation of the sports center natatorium. Freeman Companies conducted site visits; attended meetings with the client and architect; prepared a preliminary site plan and grading and drainage plan; conducted fieldwork and prepared a limited topographic survey; and included in Construction Documents were a site demolition plan, site layout plan, grading and drainage plan; planting plan, site lighting plan and plan sheets illustrating site details which incorporate University of Hartford design standards.

Owner/Client: University of Hartford/JCJ Architecture
Services: Land Surveying, Landscape Architecture, Civil Engineering
Years Services Provided: 2017
Prime or Sub: Sub



Aerial After

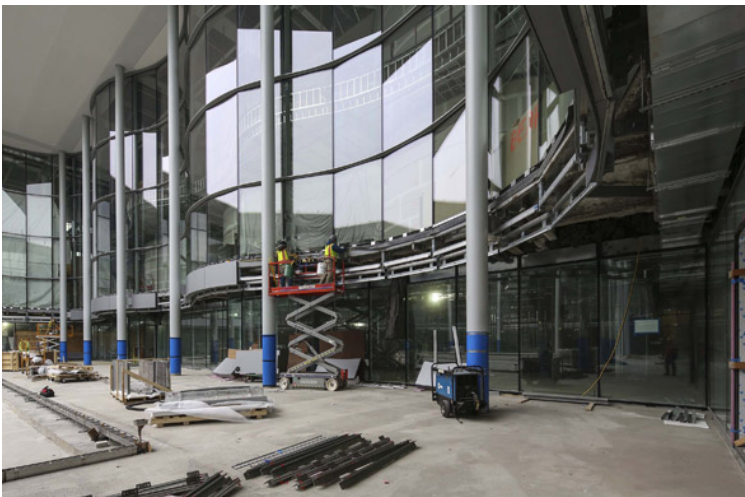
Yale University and Dimeo Construction Company: School of Management – Edward P. Evans Hall New Haven, Connecticut



Building and land surveying and construction layout services to Dimeo Construction Company for the \$ 120 Million, 225,000 SF Foster+Partners Ltd.-designed Yale University, School of Management located at 165 Whitney Avenue in New Haven, Connecticut.

This was a very challenging job because of the designer's distinctive 2 classroom "drums" (visible from Whitney Avenue); curved 40-foot high glass walls in the courtyard, circular classrooms and auditorium; and stacked, undulating floorplates. The project has been certified LEED Gold.

A related project also involved the President's Residence at 43 Hillhouse Avenue, sited directly across Whitney Avenue from the new School of Management. For this work Freeman Companies, LLC also provided building and land surveying and construction layout services to Dimeo Construction Company for drainage improvements and new water line extension. Freeman Companies recovered existing survey control, staked new drainage structures and water line, and established additional benchmarks around the site.



Hartford School Building Committee: Weaver High School Renovation-as-New Hartford, Connecticut



Graphic courtesy of The S/L/A/M Collaborative and Amenta Emma Architects



Freeman Companies is providing Land Surveying, Civil Engineering, and Geotechnical Engineering services to the Prime Architect for the “renovation-as-new” of Weaver High School for the Hartford School Building Committee.

For this project, the school was demolished to the existing steel framing. The fifth floor was also removed and the existing pile foundation was re-used. Design elements include new track and field venues and a natural turf multi-purpose sports field.

For storm drainage, our civil engineers had to work around an existing 109-inch pipe that crosses the site from north to south and reused this for the new drainage layout of the campus, incorporating another repurposing element into the design.

The previously existing academic wing was a five story structure with limited access to daylighting and views and is to be downsized and reconfigured extensively. Early investigations during design were required in order to determine how much of the academic wing would be demolished or if it is more cost effective for it to be replaced with new construction sized appropriately for the projected enrollment. The Freeman Companies geotechnical team conducted pile tests to ensure the old structure could support the new design.

Geotechnical work to date has included an early report - “Review of Previous Explorations and Preliminary Foundation Options” - where Freeman Cos.’ experience with Hartford’s lacustrine deposits (varved silt and clay) and proposed 3-4-story school building projects has significantly informed these early recommendations. Subsurface conditions include fill, glacial till, bedrock and lacustrine deposits from a depth of 62 to 105 feet thick. These soils present significant challenges to construction due to a low allowable bearing capacity and the potential for significant building settlement.

A unique component of the project is a planned at-grade crossing of the adjacent rail tracks to the west of the site. Through this crossing the campuses of Weaver High School and The University of Hartford will be physically linked. Such a physical connection will enhance the academic cooperation between the institutions. A multi-phased unoccupied renovation is planned, although use of non-renovated portions of the facility may need to continue during construction. Construction budget is \$ 65 million. The renovation of Weaver High School began in 2014 and the school is anticipated to open for the 2019-2020 academic year.

Owner: Hartford School Building Committee

Client: The S/L/A/M Collaborative and Amenta Emma Architects

Services: Land Surveying, Civil Engineering and Geotechnical Engineering

Years Services Provided: 2013-Present

Prime or Sub: Sub

Hartford School Building Committee: West Middle School Renovation-as-New Hartford, Connecticut



The City of Hartford is engaged in a full renovation to as-new condition of the West Middle School, a Pre-K to 8th grade school originally built in 1894. The existing school is spread over three interconnected buildings, totaling 91,273 SF, and is located on a constrained 2.8 acre urban site at 927 Asylum Avenue in Hartford.

The project consists of comprehensive alterations to the site and building to update the school for code compliance, accessibility and technologic purposes. The project requires the demolition of portions of the existing buildings (approx. 22,000 SF) and the construction of approximately 40,000 SF of new space, resulting in a 108,000 SF final building area to serve 750 students.

Freeman Companies is responsible for providing land surveying, civil and geotechnical engineering services. The schematic design plans for the site included a below-grade parking deck to allow for additional play areas on the surface level. Due to being an urban hardscape with many existing structures, engineers had to take special precautions to design the school within and around many historic buildings. The playground was also very intentionally placed, being accessible from the school and the connected Mark Twain branch of the Hartford public library system which is open both to the school and the general public.



This site also had geotechnical challenges due to the fact that the site resides on over 100 feet of soft, varved clay. After many rounds of advanced soil testing and analysis, lead Geotechnical Engineer Nate Whetten recommended that the upper portion of the clay be stiffened by installing aggregate columns to decrease settlement and increase bearing capacity of the native clay soils. The findings of the geotechnical evaluation were confirmed by an independent peer review and provided considerable cost savings to the project.

Owner: Hartford School Building Committee

Client: Smith Edwards McCoy Architects, Inc.

Services: Land Surveying, Civil Engineering and Geotechnical Engineering

Years Services Provided: 2012-2014



Hartford School Building Committee: Hartford Magnet Trinity College Academy at the Learning Corridor Hartford, Connecticut



Addition of 24,000 SF for classroom space to the existing 143,353 SF Hartford Magnet Middle School (HMMS) building in order to accommodate an expansion of grade ranges (from 6-8 to 6-12) and enrollment (from capacity of 750 students to 1080 students) in support of this new program, an Early College model in Partnership with Trinity College.

The existing HMMS building was constructed in 2000 as a non-magnet component of the Learning Corridor. The project involved the alteration of existing space within both HMMS and the shared space of the Learning Corridor's Commons buildings and construction of the new "connector" addition.

The 15.7 acre property consisted of existing school buildings, concrete sidewalks and courtyards, and bituminous parking areas. Site improvements included new courtyard layout, sidewalks, storm drainage, utility services, and landscape design.



The hardscape campus was already very dense before the new school construction. The Freeman Companies team had to incorporate this new structure into an already existing site. The end result is a compact yet incredibly effective space that has been naturally integrated into the Learning Corridor.

Utility coordination was of high importance due to the numerous utilities within the project area. In addition, the drop-off area along Broad Street was extended and the Vernon Street drop-off area will be altered to add a curbed island separating Vernon Street from the drop-off area.

Freeman Companies provided Civil Engineering, Land Surveying and Landscape Architecture services to the Client and Owner.

Owner: Hartford School Building Committee

Client: TSKP STUDIO

Services: Civil Engineering, Land Surveying and Landscape Architecture

Years Services Provided: 2013-2015



City of Hartford and Arcadis/O&G/C&R Program: On-Call Architectural Services: Trash Compactor Additions at Classical Magnet, Moylan and S.A.N.D. Schools Hartford, Connecticut

Top to Bottom: Moylan, S.A.N.D and Classical Magnet Schools; Construction Progress Photo



Freeman Companies assisted the City and Program Manager, Arcadis/O&G/C&R for the development of three (3) new trash compactors for the Moylan School, S.A.N.D. School and Classical Magnet School. The three projects were designed and constructed concurrently. Work began in 2016 with schematic design, design development and construction documentation for all three locations. Key to the projects was securing permitting from City of Hartford Planning and Zoning. Freeman Companies prepared and packaged the necessary documents and assisted the client in completing the application package which included the Planning and Zoning application form and engineering design drawings. Services also included obtaining the application fee from the client, sending out abutter notices, packaging of the submittal documents and the submission/delivery of the application package to the City.

Due to the availability of construction funds, there was a delay in building the projects. At the beginning of 2019, work resumed and the bid documents and project technical specifications previously prepared were revisited, revised where necessary and ultimately approved by the City for bidding. Each location had a complete set of bid plans and specifications, including a Limited Topographic Survey, Demolition Plan, Site Plan, Turning Movement Plan, and Electrical Site Plan.

Freeman Companies provided comprehensive Bidding Assistance including Pre-bid services such as assembly and printing of the Construction Plans, Specifications and other documents required for the public bidding process; preparation of an advertisement for bidding and placement in appropriate publication(s); solicitation of questions from all bidders and compilation of a list with responses in advance of the bid date; issuance of addenda; oversight of, and attendance at, a mandatory pre-bid meeting; preparation and distribution of meeting minutes. Freeman Companies assisted the City with the Bid Opening and for Post-bid Services, Freeman Companies reviewed each bid for accuracy and mathematical errors; prepared a Bid Tabulation that listed each bidder and bid item with unit costs; prepared a Letter of Recommendation/Award to the Client; prepared AIA documentation for Award of Contract and issued to the General Contractor on behalf of the City. Construction Administration services involved comprehensive review of submittals, on-site construction observation and reporting. For Closeout Phase services, Freeman Companies facilitated a substantial completion walk-through and development of a punch list for the Contractor to complete prior to final payment and any retainage to be released. Engineers performed a final walk-through to review punch list items and issued a letter stating the Contractor had met their obligations per contract documents and turned over responsibility back to the City.

The project involved close collaboration with the electrical engineer, independent cost estimator, IMTL which provided Special Inspections and Material Testing, and staff from both Arcadis and the City. Access to existing walkways, corridors, and other adjacent occupied or used facilities was maintained throughout the construction duration.

Owner: City of Hartford - Hartford Public Schools
Client: ARCADIS/O&G/C&R Program Management | Hartford School Construction Program
Services: Land Survey, Civil Engineering, Landscape Architecture, Construction Administration, Field Inspection, Coordination of Electrical Engineering and Independent Cost Estimating
Years Services Provided: 2016 and 2019
Prime or Sub: Prime

Capitol Region Education Council (CREC): Museum Academy Magnet School Bloomfield, Connecticut



Freeman Companies is providing civil, environmental, geotechnical and traffic engineering services to the Prime Architect (Smith Edwards McCoy Architects) for the proposed \$ 33.3 Million CREC Museum Academy. The school is being designed for 75,000 square feet of "active-learning" space for 522 students in grades PreK – 5 and for advancement of "hands-on, minds-on, authentic learning through partnerships with museums throughout the state to customize museum teachings to match the humanities-based curriculum". Outdoor learning and display spaces are featured throughout the 16.83-acre site, located at 11 Turkey Hill Road in Bloomfield. All of the School's outdoor facilities will be open for town use.

The property currently consists of the existing JP Vincent School (where Museum Academy had been operating two years previous), natural grass playing field, concrete sidewalks, and a parking area. The proposed improvements will replace the existing school with the new Academy and will include a new sport playing field, driveways, parking lot, sidewalks, storm drainage, utility services, and plantings. The youngest students, 126 in PreK education, will enjoy a dedicated entrance to the school where "valet service" will be provided and school staff will escort the small children into the school. The facility and grounds are being designed to LEED Silver equivalency under the Connecticut High Performance rating system.

Prior to final selection of the Bloomfield site, site investigations/site selections also involved comprehensive analysis of the historic Hartford College for Women campus in the West End of Hartford and an additional site in nearby Simsbury.

Owner: Capitol Region Education Council (CREC)
Client: Smith Edwards McCoy Architects, Inc. (Now QuisenberryArcariMalik, LLC)
Services: Land Surveying, Civil Engineering and Geotechnical Engineering
Years Services Provided: 2012-2017

Capitol Region Education Council (CREC): Academy of Aerospace Windsor, Connecticut



Freeman Companies provided integrated site development and engineering design services to the Architect for this dynamic 150,197 SF themed learning environment planned for 735 students in Grades 6-12. The shell of the building is an abandoned office complex that is reclaimed and dramatically reconfigured. An initial due diligence package was prepared for the Owner of the project consisting of an A-2/T-2 level Boundary and Topographic Survey and a Phase I Environmental Site Assessment.

Subsequent work efforts, as prepared by Freeman Companies for the Architect, included Phase II and Phase III Environmental Site Assessments and the investigation of the existing storm drainage and sanitary sewer pipe systems. Freeman Companies has also been responsible for the overall civil engineering design and permitting of the school. The site was formerly utilized as an office building and has been retrofitted to educational standards and specifications. Site improvements include the demolition of a portion of the existing building structure, the addition of a new wing to the building to house a gymnasium, cafeteria and auditorium as well as the conversion of a portion of the parking area to sporting fields.



For the school's distinctive design, the Architect called upon Connecticut's rich history in aeronautics and aviation as evidenced by a contemporary "airfoil" form (to emphasize the Middle School's façade) as well as the application of exterior materials inspired by the Hubble Telescope's deep space photograph of the Lagoon Nebula. Other façade treatments also make reference to the lunar landscape.

Owner: Capitol Region Education Council (CREC)

Client: Friar Associates, Inc.

Services: Land Survey, Civil Engineering and Environmental Services

Years Services Provided: 2011-2015



Barack H. Obama Magnet University School (formerly the Strong 21st Century Communications Magnet and SCSU Lab School) New Haven, Connecticut



Graphic courtesy of JCJ Architecture/Pickard Chilton



Ms. Hajna is serving as Designer and Mr. Lin is serving as Lead Traffic Engineer for this new, 490-student, 65,000 GSF PreK-4 School located on the SCSU Campus in New Haven. This study investigates the traffic impacts associated with the new school and grounds during the weekday AM and PM commuter peak hours. Located along the eastern side of Farham Avenue, between Wintergreen Avenue and Blake Street, the site presently serves as SCSU's Parking Lot 8. Access to the site will be provided through an exclusive bus/van service loop and a one-way parent pick-up/drop-off turnout in the northbound direction.

The construction of the elementary school will provide an integrated education approach that allows college students pursuing education degrees the opportunity to work with elementary school students in a project-based education experience. The SCSU campus is in an urban setting.

Design considerations include nearby multi-family homes and the preservation of 200 year-old oak trees that will be incorporated into an outdoor classroom setting with anchored picnic tables. Other elements include ramps and sidewalks functioning on the existing slopes of the site to be used as entrances and exits, a playground slides that will follow the natural shape of the hill, and a vegetable garden to be used for classroom curriculum.

In addition to Traffic/Safety Engineering and Landscape Architecture Design, Freeman Companies is also providing Land Surveying, Civil and Geotechnical Engineering, Permitting and Environmental Services to the Prime Architect. This project is anticipated to be completed in time for the school to open its doors in 2019.

Owner: City of New Haven and Southern Connecticut State University

Client: JCJ Architecture

Services: Landscape Architecture, Civil Engineering, Land Surveying, Traffic Engineering, Environmental Sciences and Geotechnical Engineering

Years Services Provided: 2016-Present

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FREEMAN FREEMAN

HARTFORD

HBJ BUSINESS JOURNAL

Adventurer Freeman guides growing Hartford engineering firm

BY HOLLY M. LAPRADE SPECIAL TO THE HARTFORD BUSINESS JOURNAL

6/14/2018

HBJ PHOTO | STEVE LASCHEVER

Rohan A. Freeman

CATEGORY: CEO/PRESIDENT, LESS THAN 100 EMPLOYEES

President and CEO, Freeman Companies LLC

Size of organization: Less than 50 employees

Highest education: UConn, Bachelor's degree from the School of Engineering

Previous job(s): BL Companies, Principal 2005-2009; BSC Group, Associate Principal 2001-2005

Rohan Freeman has scaled some of the world's tallest mountains, both figuratively and literally, during the course of his journey as founder and president of Freeman Companies LLC.

Freeman founded the firm in 2009, shortly after his summit of Mount Everest. Prior to that, he became the first African-American to climb the highest peaks on each of the seven continents and also completed expeditions to the North and South Poles.

Today, the Jamaica native — who is a registered engineer and land surveyor — finds many parallels between his business and his passion for mountain-climbing.

"The determination that it takes to climb a mountain is the same dogged determination it takes to run a business," Freeman said. "You're going to have to work hard, and most of all you're going to have to rely on other people to succeed."

During the early years, Freeman initially provided only two services — land surveying and civil engineering — to his small roster of clients.

As his firm evolved, Freeman gradually expanded its offerings in response to the specific needs and requests of his clients, according to Leslie Cannon Fredette, the firm's vice president of marketing and business development.

"The growth is due to our clients wanting us to do more for them," Fredette said. "We can take care of everything related to the site, offering a one-stop shop that our clients prefer."



Today, Freeman Companies, which is among the largest minority-owned and engineering firms in Greater Hartford, specializes in land development, engineering design and construction services.

When Freeman launched the firm in 2009, he was its sole employee and earned \$10,000 in annual revenue. By 2017, Freeman Companies had grown to employ 38 people with annual revenues of \$4.4 million.

Now in its ninth year, the firm completes hundreds of assignments in support of public and private clients, including the University of Connecticut, Pratt & Whitney and Eversource.

As Freeman steadily grew the business, he also paid close attention to the development of his staff, Fredette said.

"When Rohan started this firm, he made an unusually heavy investment in bringing in people with deep experience and technical abilities," Fredette said. "I think that has established our firm's reputation and our ability to do complex projects."

The firm today operates out of a 1920's-era equipment maintenance building previously used by the Hartford Fire Department. The 12,168-square-foot facility highlights the steady growth of the firm, which began in a spare bedroom with only one employee and one client.

"Sometimes I pinch myself, because I feel like I've achieved a lot, and so I'm thankful for that," Freeman said. "Through the years we've overcome a lot of hurdles. I've always been able to look back and say 'I need to change that,' and then keep moving forward."

Despite his success, Freeman has retained his humble nature and commitment to both the professional and personal growth of his employees, according to Raymond Gradwell, the firm's director of operations.

Gradwell explained that Freeman's "work hard/play hard" philosophy and generous nature is best demonstrated within the pages of the Freeman Companies' employee handbook.

"The company recognizes that employees have bucket-list items, dreams and wishes that they would like to fulfill. ... Employees may request a personal interest leave of absence for a combined total not to exceed three months," the handbook states.

Freeman has also made a continual effort to give back to the community, most notably by his establishment of an engineering scholarship through the UConn Foundation.

On the job

Guiding business principle: Elevate your expectations.

Best way to keep your competitive edge: Always have your client's best interest at heart.

Best business decision: Hiring key people, buying our current location at 36 John St. in Hartford.

Worst business decision: Hiring people who don't fit the culture. Moving to Bushnell on the Park.

Goal yet to be achieved: World domination! (of Connecticut)

Personal touch in your office: Open office space so that everyone can see and hear everything that's going on. Everyone is always included.

Personal side

City of residence: Just moved to Hartford from Rocky Hill!

Favorite way to relax: Running or watching a movie

Hobbies: Hiking, climbing, running, riding, lifting, reading, exploring

Last vacation: Sahara Desert in Morocco

Favorite movie: "The Matrix"

The car you drive: Acura MDX

Currently reading: "Desert Solitaire," by Edward Abbey

Favorite cause: Youth development

Second choice career: Adventure guide

Return to the C-Suite Awards landing page

HBJ - CEO 2018 APPLICATION

Amidst the economic turmoil of one of the worst recessions ever experienced by the building industry – and shortly after his successful summit of Mount Everest - Rohan A. Freeman, PE, LS founded Freeman Companies, LLC in 2009. In the years since, this multi-disciplinary, Hartford-based land development, engineering design and construction services firm has thrived.

Freeman Companies is a growing, Black American owned small business, driven by our promise to clients and owners to ELEVATE YOUR EXPECTATIONS. This promise has led the company to retain nearly all of its clients through repeat business and to grow a robust roster of new clientele.

The firm started by offering only two services to its clients - land surveying and civil engineering. In response to client needs and requests over the years, it today includes multiple services, offering specialization in hydraulic/hydrologic engineering, geotechnical engineering, landscape architecture, environmental sciences, hazardous materials investigation, transportation and traffic/safety engineering, bridge/structure engineering and inspection, utilities engineering, construction engineering and inspection, contractor support services, and owner's representation for projects in the governmental, educational, commercial, industrial, institutional and infrastructure markets. An innovative "INTEGRATED DESIGN APPROACH" offers multiple complementary and coordinated land development services through a single provider, enabling sustainable, high quality land development in the most cost-effective and time-responsive manner possible. Under Mr. Freeman's guidance, this approach has resulted in Freeman Companies' steady growth in new revenue, markets, employees, and professional services over the past nine years of practice.

The firm is a certified Disadvantaged Business Enterprise (DBE), Minority Business Enterprise (MBE), Small Business Enterprise (SBE) and SAM-Active, Federal US SBA 8(a) professional consulting enterprise. In December 2017, the Hartford Business Journal recognized Freeman Companies as one of the region's Largest Engineering Firms and Largest Minority-Owned Businesses.

In anticipation of next year's 10th anniversary of Freeman Companies, we felt this nomination was an appropriate way to both professionally recognize and personally thank President and CEO Rohan Freeman for his vision, persistence, generosity and leadership in creating, and continually growing, this inimitable enterprise. He is an "American Dream" success story (happily, this idea persists). If HBJ is seeking top-performing C-level executives who have contributed to their company's overall growth, and who have also shown a commitment to good ethics and involvement in the community, then Rohan is well deserving of this award.

The business started in a bedroom, with only Rohan, with only one client. It has grown relatively quickly into one of the state's most well-respected small and minority-owned professional consulting engineering and environmental services firms, now offering multiple integrated services delivered by a team of 38 professionals. The firm completes hundreds of assignments annually in support of public and private clients across the state and counts among these clients the City of Hartford, State of Connecticut's Department of Administrative Services and Department of Transportation, Metropolitan District Commission, Connecticut Housing Finance Authority, University of Connecticut, Pratt & Whitney, and Eversource. Freeman Companies looks toward further expansion in 2019 into new jurisdictions and/or acquisitions in New England and in the Tri-State area.

Mr. Freeman is often recognized as the "mountain climbing engineer".

In addition to his success in business, Mr. Freeman, who grew up in Jamaica, is an elite mountaineer. He is the first African-American to climb the Seven Summits (the seven continents' largest peaks) and recently completed expeditions to the North and South Poles, conquering the "Explorers Grand Slam". Freeman Companies' promise to clients to "ELEVATE YOUR EXPECTATIONS" makes reference to the "ascents" of both climbing and elevating client satisfaction. With their insistence on skill mastery, teamwork, hard work, good judgement and calculated risk taking,

mountaineering is in many ways analogous to starting and growing a business. The evolution of the Freeman Companies enterprise and the Freeman brand have been fueled by these common principles. (Several parallels were presented at the recent HBJ "90 Ideas in 90 Minutes" event. Rohan illuminated such common principles as "Build a Good Rope Team", "Bring an Ice Ax" and "Lead with Passion".)

Also, in his example to employees, peers and colleagues, Rohan personifies the "work hard/play hard" philosophy. He encourages everyone to find their passion, and has even formalized its pursuit in Freeman Companies' Employee Handbook, under the category of "Personal Interest/Development Leave of Absence", which states: "The Company recognizes that employees have bucket list items, dreams and wishes that they would like to fulfill while they still have their health intact...employees may request a paid, unpaid, or partially paid personal interest leave of absence for a combined total not to exceed three months." Finding passion, both at work and out of work, is a priority of the Freeman Companies' enterprise.

It's uncommon leadership, because Rohan Freeman is not your typical CEO.

Amidst the economic turmoil of one of the worst recessions ever experienced by the building industry – and shortly after his successful summit of Mount Everest - Rohan A. Freeman, PE, LS founded Freeman Companies, LLC in 2009. In the years since, this multi-disciplinary, Hartford-based land development, engineering design and construction services firm has thrived.

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Freeman Companies' steady growth has enabled it to advance its social responsibility goals, including support of several community-based educational and human-service organizations in and around our home City of Hartford, on whose boards Mr. Freeman serves, including the Boys and Girls Clubs of Hartford where Mr. Freeman serves as Chair of the, Building Committee; Camp Courant, Connecticut Landmarks. iQuilt – Board of Corporators, Mark Twain House and Museum, The New Children's Museum and the National Board of Directors of Outward Bound. Outward Bound (National Board of Directors).

On a recent trek to the North Pole called "Expedition for Opportunity", he raised funds for three Hartford-area non-profits and talked with the children before he left for the Pole, and also, when he returned.

His areas of community focus are predominantly focused on children (including spending countless hours sharing his story at local schools), minorities and immigrants. A huge believer in "paying it forward" with both time and money, Rohan has said "Give the help you wish you had... Stay connected and compassionate... 'Put yourself in their shoes". Giving back is but one way of showing gratitude to the communities we serve.

Prior to founding Freeman Companies, Mr. Freeman, himself a registered engineer and land surveyor, had served in leadership positions in prominent engineering firms for nearly 25 years. Upon founding Freeman Companies, Mr. Freeman's professional development continued, but was re-focused on entrepreneurship, management and growing a small and minority owned business. He is a graduate of the Diverse Supplier Development Academy, "Building a High-Performing Minority Business" program at the Tuck School of Business at Dartmouth, and countless other programs and academies. Mr. Freeman has also been a guest speaker at engineering courses at both UCONN and the University of Hartford.

Father to 3 year old Emilia

Employer to 38 Professionals

First African-American to Scale the Seven Summits

Completed the Explorer's Grand Slam

UCONN School of Engineering: Academy of Distinguished Engineers, Inductee

National Society of Black Engineers: Professional Development Conference, Executive Mentor

National Society of Black Engineers: SNWEATP STEM Gala, Keynote Speaker

West Indian Society Foundation: Business Award, Honoree

100 Men of Color, Honoree

Hartford Public Library: "Find the Explorer in You", Panelist

Hartford Business Journal:

Feature – "Freeman just keeps climbing mountains" (December 10, 2012)

Feature – "Thrill-seeker Freeman scales challenges of entrepreneurship: (August 7, 2017)]

Panelist – 90 Ideas in 90 Minutes (April 3, 2018)

Hartford Courant:

Panelist – Key Issues Forum ""Connecticut: Why We Live Here"

Feature – "Freeman Cos. Looking to Scale the Heights" (January 3, 2015)

Employee Count / Revenue Growth

2017: 38 Employees, \$ 4,366,000;

2016: 33 Employees, \$ 4,340,000;

2015: 34 Employees, \$ 3,766,000;

2014: 28 Employees, \$ 3,013,000;

2013: 18 Employees, \$ 2,000,000;

2012: 11 Employees, \$ 1,550,000;

2011: 8 Employees, \$ 880,000;

2010: 6 Employees, \$ 600,000;

2009: 1 Employee, \$ 10,000.



ROHAN FREEMAN,
President and CEO,
Freeman Companies and 7 Summits

“

EMBRACE THE RISK.
RISK PRESENTS
OPPORTUNITIES

”

Rohan A. Freeman is a UConn alum and the founder of Freeman Companies LLC in Hartford. Freeman founded the company shortly after summiting Mount Everest with a promise to clients to “Elevate Your Expectations.”

Freeman Companies is an award-winning, multi-disciplinary site development, engineering, design and environmental services firm that has led several large-scale, transformative public projects. The company has thrived since its inception in 2009, allowing Freeman to launch a separate venture, 7 Summits Construction LLC in 2016. He is on the board of multiple state and national charities and community organizations, and in 2014 established the UConn School of Engineering “Freeman Companies BRIDGE Endowed Engineering Scholarship” to support minority students with an interest in civil engineering.

As the first African-American to climb the Seven Summits, he went on to trek to the North and South Poles, also making him the first African-American to complete the Explorers Grand Slam.

BUILD A GOOD ROPE TEAM

You are only as strong as your weakest link. Stay connected.

EVERYONE NEEDS A SHERPA

Success is rooted in who has helped you reach your goals. There will be many Sherpas to help you along the way.

LEAD WITH PASSION

Passion is infectious. Balance professional and personal endeavors. Be transparent.

EMBRACE THE RISK

Risk presents opportunities.

REMEMBER TO LOOK UP

The view is not at your feet – it’s on the horizon.

ALWAYS TAKE THE HIGH ROAD

The view’s better from the top! Admit when wrong.

PAY IT FORWARD/GIVE BACK

Give the help you wish you had. Stay connected and compassionate. Your community is your business. Share what we have learned. “Put yourself in their shoes.”

ELEVATE YOUR EXPECTATIONS

Raise expectations of employees and customers.

CLIMB HIGH, DON’T DIE

There will always be ups and downs. Focus on upwards trajectory. Never give up.

BRING AN ICE AXE

When faced with challenges what tool keeps your team together? Make sure everyone on your team has the tools to succeed.





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HARD
WEAR



BOYS & GIRLS CLUBS
OF HARTFORD, INC.



EVEREST
HARD
WEAR

MILLET

MILLET

CAMP













ВЕЧНАЯ СЛАВА
ДИНАМ-КУРГАНЦА
ПОВСЕЛЕННИКА
ЖИЗНИ



ELEVATE YOUR EXPECTATIONS



Freeman Cos. Looking To Scale The Heights



Rohan Freeman founded his civil engineering firm in 2009 after he got back from climbing Everest. (John Woike)

By **Mara Lee**

JANUARY 3, 2015, 7:43 AM

HARTFORD — Freeman Cos. has 15 positions it would fill right away if it could find people to hire.

Transportation engineers. Traffic engineers. Structural engineering manager. Bridge designers. Construction inspectors. Surveyors. Office coordinator.

Hiring that many people would increase the company's head count by 50 percent.

They are doing dozens of interviews, and expect that this month, they will have four or five more employees in the office.

Business Development Director Leslie Cannon Fredette said staff capacity to do jobs is the biggest thing holding back the company's growth trajectory.

The Freeman Cos. offers civil engineering services — designing stormwater systems, sewers, parking, drainage, foundation support evaluation, construction permitting and inspection — as well as land surveying and environmental analysis.

The firm was founded by Rohan Freeman four years and 11 months ago, in his rear bedroom. Freeman, 49, grew

up in Jamaica, and came to Hartford when he graduated high school. His mother had moved to Hartford five years earlier, when she remarried. After that, he lived with his grandmother and uncle.

Freeman took classes at Hartford State Technical College before transferring to UConn in 1986, but he had to leave college because he couldn't afford to stay.

He worked as a security guard, a land surveyor, and a public works employee. "Whatever I could to make money to get through school," he said. He finally graduated in 1995.

He hopes to help young people like him get through college more quickly. Freeman has made donations to UConn's engineering school to endow a scholarship in the hopes of retaining black or Hispanic students from Hartford, Bridgeport, New Haven or Waterbury. The size of the scholarship has not been determined.

Freeman had long planned to start his own firm when he was recruited to the architectural and engineering firm B.L. Cos. to be a section leader, with a promise he could become a principal there if he did well. He was promoted to principal.

Taking that job was really valuable, he said, because before he worked in top management, he had never been involved in business-side decisions, and he hadn't been in a position to hire people.

"One thing that I've learned [there] that I've applied: You don't always have to hire the most skilled worker," he said. "If you hire the hardest worker with the best intentions, they will take you a lot further."

Although Freeman was high up at BL, he lacked the freedom to take the time off he wanted to climb Mount Everest. Freeman got into mountaineering at age 36 and has climbed the highest peak on every continent, starting with Mount Kilimanjaro in Africa.

When he asked for two months off, and he was turned down, he resigned. When he got back from the Himalayas, he founded the Freeman Cos.

He started the company at the nadir of the worst downturn for construction work since World War II. But he's never had trouble being busy.

"No matter how bad the economy is, there is always work somewhere. It's just a matter of who's getting it," he said.

In the first year, all the jobs Freeman and his first employee did were in the private sector. Now, 75 percent of the firm's revenue is from public jobs, and a quarter is from private work. Fredette, the business development director, said that in 2015 she wants the mix to be more balanced, "so that everybody's equally busy."

Freeman's reputation was what landed him his early clients.

Bob Landino, CEO of Centerplan Cos., hired Freeman at BL.

"When we were thinking of submitting a proposal for Downtown North, he was one of our first calls," Landino said. "Because of his track record, and just because of our past relationship."

He called the company "one of the more significant firms within his discipline. They meet deadlines, they're responsive to client needs, both contractually and technically."

Freeman Cos. is doing all the civil engineering design, managing the permitting process, and coordinating all the

consultants. Downtown North is the name for commercial and housing development around the site of the proposed baseball stadium in Hartford.

"We're basically the coach for the overall development," Freeman said.

Freeman is usually invited to contribute to a bid package by a larger, lead company when it comes to public projects. Freeman said some of the company's business comes because of his network, and some because companies need to include minority-owned businesses to meet affirmative action regulations on public projects.

In 2014, Freeman bought a repurposed historic fire department maintenance garage after having to move the offices repeatedly because they were too small for the growing staff. The purchase and some renovations were funded with a \$300,000 subsidized loan from the state, which also paid for some surveying equipment and computers.

He said he never considered buying anywhere but Hartford, even though parking is a problem at the site. He also has been community-minded by hiring a man from the Job Funnel, a program for poor people, often with criminal histories. He did a year's worth of on-the-job training for the man to become a field surveyor, and then the man left after a year. That hurt at a time when finances were tight for the new firm, and Freeman took a reduced salary personally.

"We get criticized for this sometimes, that we don't hire enough minorities," Freeman said. "Every position except for an administrative assistant here is technical. We have clients with expectations and schedules, there's only so much we can do [to train unskilled people] and still be successful."

But he said he would hire from the Job Funnel again.

Freeman intends to use the \$100,000 grant from the Small Business Express program to cover some salaries in 2015.

He needs to hire not just because he expects to do a lot more work this year, but also because his current staff is working a lot of weekends, nights and holidays to meet deadlines. In the past year, he said, it's become much harder to compete for engineers.

Freeman said his biggest mistake in running his own company so far was being too conservative in paying salaries and bonuses, and then losing job candidates or employees to companies that would pay more.

"I wouldn't say it's the greatest," he said of his retention rates. "We're taking steps to deal with that."

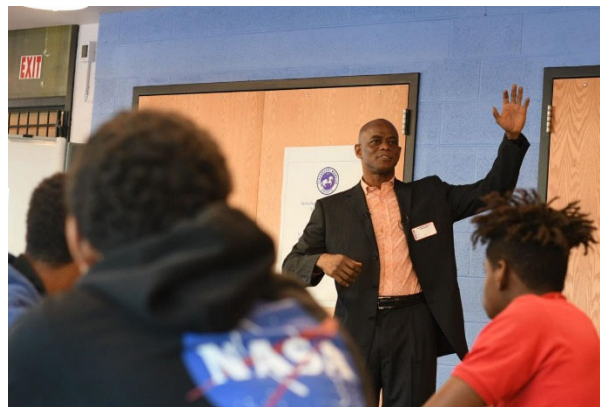
In 2013, the Freeman Cos. did a little more than \$2 million in business, and last year, it was around \$4 million. For 2015, he'd like to get to \$7 million to \$7.5 million in revenue. "If we get 50 percent of our bids, we could get there," he said.

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The Philadelphia Tribune

Mountain-climbing entrepreneur encourages Strawberry Mansion students

- Ryanne Persinger Tribune Staff Writer Thursday, November 1, 2018



Rohan Freeman, who is believed to be the first Black American to climb the Seven Summits, speaks to students at Strawberry Mansion High School about the importance of education and working hard. — by PHILADELPHIA TRIBUNE PHOTOS/ABDUL R. SULAYMAN



Strawberry Mansion High School student Kyeem Wall speaks with mountain-climbing entrepreneur Rohan Freeman after an event at the high school Thursday.

Although Rohan Freeman has climbed the Seven Summits, he told a room of about 25 Strawberry Mansion High School students they, too, climb mountains every day.

"I've been fearful, and I've been scared," said Freeman, noting different obstacles students may face every day. "But climbing is no different than living life. It uses the same emotions that it takes to overcome certain challenges."

Freeman, who is believed to be the first Black American to climb the highest mountains of the seven continents, spoke on Thursday morning to the North Philadelphia students who are part of a 10-week intensive intervention program designed to prepare them mentally for their upcoming Keystone Exams.

The event was part of Philadelphia's Outward-Bound School's 25th anniversary. Outward Bound is a nonprofit organization that incorporates outdoor learning programs through challenge and discovery. The program recently moved its headquarters to the Discovery Center at 3401 Reservoir Drive located in the Strawberry Mansion community, not far from the school.

Freeman is the vice chairman of the Outward Bound USA Board of Directors and founder and president of Freeman Companies, LLC.

Freeman credits Outward Bound with helping him become more well-rounded and encouraged the students to get involved and to work hard.

"If you spend the next 5-10 years applying yourself and working hard think about how easier your life will be," Freeman added. "If you slack off now and don't get an education, I guarantee you those years will get harder and harder. No matter what, you need to have a good education to be successful."

Freeman shared his experiences of coming to America from Jamaica, studying engineering in college, starting a business and climbing mountains.

Freeman told the students that he experienced such a rush the first time he climbed Mount Kilimanjaro 15 years ago that he had to do it again. He summited Mount Everest in 2009, reaching the peak where temperatures can drop to minus-60 degrees Celsius. The accomplishment took him two months, a shock to students.

After that, Freeman reached another pinnacle by founding his company, an engineering firm in Hartford, Conn., that provides services through engineering, land surveying, architecture and more.

Freeman also has established the Freeman Companies BRIDGE Endowed Engineering Scholarship to support minority students with an interest in civil engineering who have overcome obstacles such as socioeconomic or educational disadvantages through the University of Connecticut's School of Engineering. Freeman said he created the scholarship because he was one of few Black students in his engineering courses when he attended the university and he wants to encourage more minority students to enter the field.

When a student asked if Freeman was ever scared on his journeys, he replied, "Fear is a very good thing because it keeps you alive."

When asked what the students most admired about Freeman, 16-year-old junior Aainyae Robinson said, "He overcame culture shock when he came to America from Jamaica."

"He challenged his hardships head on," said 17-year-old senior Kyeem Wall before shaking Freeman's hand. "He never doubted himself. I learned a lot from his experience."

Both Robinson and Wall plan to attend college.

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AUGUST 7, 2017

FACES OF BUSINESS

Thrill-seeker Freeman scales challenges of entrepreneurship



HBJ PHOTO | STEVE LASCHEVER

When he's not running his Hartford engineering firm, Rohan Freeman challenges himself physically. He is believed to be the first African American to complete the Seven Summits.

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STAN SIMPSON

Before he launched his engineering business eight years ago, Rohan Freeman wanted to get two things out of the way.

He wanted to successfully summit Mount Everest, because he had failed to do so a year earlier in 2008. Freeman also wanted to ride his mountain bike 2,745 miles along the continental divide from Banff, Canada to the New Mexico/Mexico border. It took him and a friend three weeks to complete the trek.

Having tested himself physically, mentally and spiritually, starting his own firm would provide yet

another adventure.

As president of Freeman Companies, which provides land development, engineer design and construction services, the Jamaica native has grown his business from a one-person operation with an attic office to a 36-person firm. A two-story, 12,000-square-foot former fire station on John Street in Hartford is the company's home.

The ups and downs of running a business are similar to climbing the world's highest mountain.

"I just love to be challenged," Freeman, 51 said. "And if I do something and it's easy I just don't feel accomplished. I love to be successful in business, but I also love to be successful in my physical personal challenges."

He is believed to be the first African American to complete the Seven Summits, climbing the world's highest peaks. He has journeyed to the North Pole; and in



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Stan Simpson



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Freeman Companies has grown its Hartford office at 36 John St. (left) to a 36-person firm. The company culture requires all employees (right) to be entrepreneurial.

January plans to add the South Pole to his punch list.

The adrenaline rush from his outdoor pursuits is similar to the exhilaration he gets from securing and executing a business deal, which may include work on landscape designs, tunnels, roadways, parking lots, traffic signals, bridges, sewer systems and buildings. Clients include the Metropolitan District Commission, the city of Hartford, Capitol Region Education Council and the new Dunkin' Donuts minor league baseball stadium.

"We are what drives civilization," Rohan said about the role of the engineer. "When you get up in the morning and go to the bathroom and turn the water on, or flush the toilet the engineer helps to make that happen. No one cares about those things. They take it for granted, unless there is a problem. The only time you ever hear about the

engineer is when there is a problem."

Projected revenue this year is \$5.6 million, up from \$4 million last year.

"Business is really good," Freeman said. "From the first time since inception, I feel like we have a complete team in that the company can tackle any project from top to bottom. It's a gratifying feeling because I know how hard it has been to put this team together and get a team where you are happy with everyone."

The second of four children, this single father is close to his family. His mother, Desna Foster, provides administrative duties to his firm. Two brothers, Lennox and Arden Keen, are both employed as land surveyors. Freeman's father, Everol, a retired maintenance worker at Carnegie Hall, lives in New York.

Freeman graduated from UConn in 1995, with a degree in engineering. A sprinter, he was also co-captain of the track team. On an average day, he is up at about 6 a.m. and usually there is a two-hour workout that can include running, lifting weights, riding his bicycle and swimming. The 6-foot, 180-pound frame is fit, though he concedes to enjoying a good cabernet and a margarita or two.

As a kid growing up in Montego Bay, math always interested Freeman. After graduating from UConn, he landed several engineering jobs, the most significant being the director — and later a principal — of the Hartford office for BL Companies from 2005 to 2009. There, he learned how to secure office space, negotiate a lease, interview and hire people, build an organization and secure clients.

The experience at BL gave Freeman the confidence in 2009 to open his business. He believes in a work culture that is "entrepreneurial," in which employees have a voice and a personal stake in the success of the company.

"The biggest thing we push here is balance. We don't want anybody working 60 hours a week. We want you to have a balanced life. When I was younger, I used to work 70, 80 hours a week — and that was crazy. I want people to appreciate their life outside of work; to do other things and have other interests. Ultimately, I think you get more out of work by having that balance."

Besides expanding Freeman Companies outside of Connecticut, Freeman is still in hot pursuit of those thrill-seeker adventures.

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In August, he will take on a three-week challenge dubbed "Mission Impossible" — attempting to summit the Eiger and Mataborn mountains in Switzerland, and the Mont Blanc in France.

Just another day at the office.

Stan Simpson is the principal of Stan Simpson Enterprises LLC, a strategic communications consulting firm. He is also host of "The Stan Simpson Show," on Fox 61.



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DECEMBER 10, 2012

Freeman just keeps climbing mountains



PHOTO / STEVE LASCHEVER

Three years after striking on his own, Hartford engineer-entrepreneur Rohan Freeman is expanding his civil engineering firm. Recently, he added a high-profile geotechnical engineer to his staff to serve predominately Connecticut clients, but sees more market potential up and down the eastern seaboard. Freeman Companies' offices are downtown in Bushnell On The Park, 100 Wells St.

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KATHRYN M. ROY

After climbing the world's highest peaks, Rohan Freeman is looking for new mountains to climb with his Hartford-based civil engineering firm Freeman Companies LLC.

Just three years after Freeman founded the firm, he has hired a top geotechnical engineer to lead a new geotechnical division as he looks to expand his business.

Freeman, the first African American to complete the Seven Summits, said he didn't exactly plan to start a company in the midst of financial turmoil in 2009. He wanted to take a few months off of work to climb Mt. Everest, and when his employer turned him down, he quit, with plans to start

the company upon his return.

"This vision had been bumbling around my head for about eight years or so," he said. "It felt like that would be a perfect time, regardless of the economic conditions. Even though I knew it was risky, I guess I was overconfident in myself and what I could do, based on my track record."

Freeman, with 28 years' experience in the industry working for nationally recognized engineering firms such as BL Companies and BSC Group, along with the City of Hartford Public Works Department, started working with little more than his good reputation behind him.

"I'd been working with clients for a long time, and there was one thing I knew I had that separated me from a lot of other folks, and that was that I provided good service," he said. "The folks I worked with were dedicated to me because of my style of working, so I focused on that. Even though I didn't have a deep client base, that was my focus."

He was born and raised in Jamaica and immigrated to the United States to attend the University of Connecticut to study



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Nathan Whetten, geotechnical engineer,
Freeman Companies LLC

civil engineering. He later became dually licensed as a professional engineer and land surveyor.

He has positioned Freeman Companies as a minority-owned business, with certifications as both a Minority Business Enterprise and Disadvantaged Business Enterprise, allowing the firm a shot at more business opportunities. But Freeman said he wanted to build a name for the company on its own merit.

"Even though I knew I had that advantage, initially I just focused on going after the work," he said. "I didn't have a lot of experience working in the MBE or DBE field, and I think a lot of people appreciated that. I wasn't coming to them saying, 'I'm a black guy, give me work.' My approach was, 'Give us a shot; see what we can do.'"

And those that have given the company a shot are happy. Of current clients, Freeman said 90 percent of them are repeat customers. The firm works in both the private and public sectors, with many projects in the medical/health care and education industries.

Freeman's projects in the Hartford area include water and sewer main replacements for the Metropolitan District Commission, the Community Health Services addition and The Fitchman Eye Center in Hartford's North End. School projects include several schools for the Capital Region Education Council, including the International Magnet School for Global Leadership.

Looking to grow the three-year-old company, Freeman hired nationally renowned geotechnical engineer Nathan Whetten earlier this year to head up the firm's new geotechnical division.

Whetten said he was intrigued by the possibility of starting a geotechnical division from the ground up.

"Freeman had the reputation of being a small, quality firm and that was really the draw for me," said Whetten, who has worked in the business for 30 years, most recently as senior associate at GEI Consultants, a worldwide science and engineering firm.

Whetten, considered a leading authority by his peers, has published more than 15 articles for multiple science and engineering trade publications. He is one of several strategic hires made recently at Freeman Companies, which also provides services in civil engineering, land surveying and environmental sciences. He has a successful track record of secure, long standing structures, including rock slopes, highway and bridge projects, parking structures, dams, large buildings, water/wastewater treatment facilities and utility pipelines.

Freeman said he believed hiring Whetten would open doors for the company.

"Even though we didn't have geotechnical work for Nate (yet), I thought it was one of the business lines we needed to get into," Freeman said. "Looking at the marketplace and the strengths and weaknesses in the MBE and DBE market, we didn't see a lot of geotechnical emphasis there. Looking at Nate's resume and experience and the depth he brought to the table, I felt that set us apart within the DBE/MBE market."

Geotechnical engineering is now required on most large projects to characterize the physical properties of the ground, ground water and underground rock. Many geotechnical questions need to be answered on any given project, whether it be a building, bridge or tunnel.

In a competitive industry and a still struggling economy, Whetten said Freeman Companies is looking to be one step ahead of the competition.

"A lot of what we try to do is to develop that personal relationship with the people we're working for so we can maybe anticipate things they need to do or think about, and then provide that to them so it just makes

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it easy," he said. "We try to get outside the agreed upon scope of work and brainstorm a little bit."

One of those firms Freeman Companies has developed a strong relationship with is AECOM, a Rocky Hill-based firm providing fully integrated professional technical and management support services for a broad range of markets. Freeman approached AECOM shortly after he formed his business to discuss the possibility of becoming partners on civil infrastructure projects.

"We met with him and got a sense of their qualifications and we're very impressed with his methods in starting his business," said Jim Sullivan, AECOM's senior project manager. "He hired some good quality people with good skill sets."

As a large firm with a global presence, AECOM specializes in large, complex engineering projects, but seeks help from small, local firms when possible.

"One of the focal points we have is trying to be a mentor to small firms, particularly local firms," Sullivan said. "Civil engineering projects tend to be disruptive, and we like to have involvement with local firms."

Freeman is working with AECOM, doing construction inspection and surveying, on two of the company's Hartford projects.

Sullivan said AECOM was aware of Whetten's qualifications when he was hired at Freeman, and wanted to give the company an opportunity to get involved with its large projects.

"We have an intensive geotechnical engineering project with a lot of geology components to it," Sullivan said. "We amended (Freeman's) contract to give them the geotechnical (part of the work). (Whetten) has performed as we expected. I think we'll continue to look for opportunities to engage them in those types of projects going forward."

While Sullivan concedes his firm wouldn't look to hire another large firm it competes for business with, partnering with smaller firms only makes sense.

"All these projects have disruption to them, and you're looking for ways to have that impact benefit the local community," he said. "Despite that they get a new bridge or a water main, if the community businesses are actively working on that project, there's a benefit to that and we support that."

Freeman said he continues to look to expand the firm. He plans to add structures and transportation to the company's service lines, and also hopes to expand the firm's work into the Boston, New York and possibly Washington, D.C. areas. Freeman is also working on strategic hires for senior bridge design, environmental engineering and land surveying professionals.

Freeman said Freeman Companies will get the word out about expanded services as it always has.

"It's making contact with the right person at the right time so they remember who we are," he said. "When you get that opportunity, you have to perform. They'll see this company provides good service and provides quality work."

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Meet the 2015 Inductees of the Academy of Distinguished Engineers

It was a standing ovation for Tina Lewis last week at the annual induction of the UConn School of Engineering's Academy of Distinguished Engineers and Hall of Fame.

One of seven engineers being inducted last week, Ms. Lewis was one of the first two women to receive degrees from the University of Connecticut's School of Engineering. This year marks the 60th anniversary of her graduation. While introducing Lewis, Associate Dean Dr. Mei Wei, talked of Ms. Lewis' determination to get a Bachelor of Science degree in Electrical Engineering despite a high school teacher's warning that engineering wasn't the right field for a young woman. Persistence paid off for her, and she received her degree in 1955.

"We and generations of women engineers who followed her, appreciate her determination," Wei said.

After graduation, she went to work for United Aircraft in Podunk for two years, where she designed test equipment, consulted with the technicians and made sure that the equipment was being built correctly. She then went to work at Cardinal Control Co., an electrical and electromechanical products manufacturing company. There, she made drawings and helped design relays and Electro-Mechanical safety equipment. She also supervised the office, checked the production line and ordered all the parts with delivery times. After her husband, Blaine Lewis, bought half ownership of the company in 1957, the company was moved to Kensington, and Ms. Lewis designed its new building. She now lives in Glastonbury.



The ceremony was held at UConn's Alumni House, and kicked off with an a cappella musical performance by the Conn-Men. The other inductees are:

Peter Blume

Peter Blume, who graduated with a BS in Electrical Engineering from UConn in 1989, is the President and founder of Bloomy Controls, Inc., an industry leader in automated test, data acquisition and control systems. Leading the company for more than 22 years, Peter has grown Bloomy from a regional services company to a provider of products and platforms that have helped hundreds of high-tech manufacturers transition products from prototype to production.

Rohan Freeman

Rohan Freeman, who graduated with a Bachelor of Science in Civil Engineering from UConn in 1995, is President at Freeman Companies, LLC, a full service engineering and surveying firm in Hartford, CT. His projects are familiar to anyone who has driven around Connecticut, and include major renovations of Weaver High School in Hartford. Rohan, who grew up in Jamaica, has set up a scholarship at UConn to help others pursue and rise up to their own personal challenges.

Bernard (Bernie) Gracy

Bernard (Bernie) Gracy, who graduated from UConn in 1985 is Senior Vice President Global Product at Cimpres, N.V. in Lexington Massachusetts. Before coming to Cimpres March this year, Bernie served as Vice President of Strategy for Pitney Bowes' Digital Commerce Solutions. There, he was responsible for global growth strategy of Pitney Bowes' software business, and led the strategy behind Pitney Bowes' Inlet Digital joint venture

Jerry L. Prince

Jerry L. Prince, who graduated from UConn in 1979, is the William B. Kouwenhoven Professor in the

Electrical and Computer Engineering Department at Johns Hopkins University. Jerry has commercialized several of his inventions, including many with Diagnosoft, Inc., the company he co-founded. The medical community has benefitted greatly from his research.

Ramesh Sepehrrad

Dr. Ramesh Sepehrrad is a Vice President at Comcast. She has been instrumental in forging partnerships between Comcast and the University of Connecticut. These efforts include the establishment of the Center for Hardware Assurance, Security, and Engineering (also known as CHASE), and CSI, the Comcast Center of Excellence for Security Innovation. At Comcast, she is responsible for overall governance, technology risk and compliance as it relates to information and infrastructure strategy

Jean T. Scire

Jean T. Scire, a 1984 UConn engineering alum, is the Senior Vice President and Chief Information Officer at Philips Healthcare. Jean, a member of Women in Technology and Information and the Society of Women Engineers, has a very impressive track record of creating opportunities for women striving for leadership roles in technology. At Philips Healthcare, she is the leader of the IT organization supporting the Healthcare business groups enabling business transformation across 17 markets for 37,000 employees, with an annual revenue of \$10 billion.

(Photos by Chris LaRosa/UConn)

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Rohan Freeman Creates Scholarship For Minority Students In Engineering

In April 2009, Rohan Freeman climbed Mount Everest, a lifelong dream. A month later, he climbed the world's highest peak. And a month after that, he came home and began the process of establishing his own engineering consulting firm.



Rohan Freeman

"I'm always looking for that next big challenge," says Freeman, who recently completed an Ironman competition in Louisville, Ky. "I ran track at UConn. To me, I needed some kind of pursuit."

To help others pursue and rise up to their own personal challenges, Freeman has set up a scholarship. The Freeman Companies BRIDGE Endowed Engineering Scholarship will help support minority students in the School of Engineering, with preference given to students specializing in civil engineering.

Freeman, who graduated in 1995, was born and raised in Jamaica. He came to the University of Connecticut to explore his interests in the field of civil engineering. His time studying was "positive," Freeman said, even though he was the only minority majoring in civil engineering at the time. "There was zero diversity," he said. In

a way, he said, it prepared him for working in the field of civil engineering, which he says suffers from the same lack of minority representation.

But he'd like that to change. To that end, Freeman established the scholarship.

"It's something we've always wanted to do," he says. "The lack of participation of minorities in the engineering field" is a problem that needs to be addressed, he said.

Why is there such low minority representation in the field?

"That's a good question," he says. "I wish I knew the answer. I think the answer is bigger than I can answer."

The kind of scholarship that Freeman's donation will set up is exactly the sort of thing that he wishes were in place when he was attending UConn.

"Absolutely, I could have benefitted from it," he said. "I had to work and find my way through school myself."

To be eligible for the scholarship, students must be a Connecticut resident, demonstrate academic achievement, and be in financial need. Also, they must have participated in the School of Engineering's BRIDGE program (or a similar program), which prepares engineering students from underrepresented populations for their first year at UConn. Priority will be given to students who have overcome obstacles such as socioeconomic or educational disadvantage, or are members of groups underrepresented at UConn, or have experience living in diverse environments.

Freeman, who is dually licensed as a professional engineer and land surveyor, has had a number of prominent clients since he set up his company. Projects include survey stakeout services connected to the construction of two new football fields at New London High School, land surveying and civil engineering services for a two-story dialysis center in New Haven, and land surveying and civil engineering services for what will be 275,000 SF of retail space in Naugatuck.



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Rohan Freeman

Rohan Freeman

A True Pioneer

May 2013

I read a lot of magazines (and newspapers and online stuff and you get the point). And I actually read the UCONN Alumni magazine thing we all get. Not only that, I like to peruse the little blurbs in the back wherein they publish a bunch of little alumni accomplishments.

So there I was, and I won't tell you where I was sitting or what I was doing exactly, ahem, but I read the following:



Rohan Freeman '95 (ENG) became the first African-American to climb the Seven Summits, the highest peaks of the seven continents, this past October. He is the founder and principal of civil engineering firm Freeman Cos. in Hartford, Conn.

Wow. Why isn't this guy a household name? In my mind, he should be.

The Seven Summits are the highest points on each of the seven continents. These are: Kilimanjaro (Africa), Vinson Massif (Antarctica), Kosciuszko (Australia), Everest (Asia), Elbrus (Europe), Denali (North America) and Aconcagua (South America). As with all such lists, there is some disagreement about Kosciuszko and Elbrus. This list is called the Bass List and its the one Rohan completed. The other Seven Summits list is the Messner List, and it includes Mont Blanc instead of Elbrus (on the Europe/Asia border) and the Carstensz Pyramid in Indonesia because some wackadoos consider it Australia. [More on this here.](#)

I reached out to my '96 ENG Hartford area friend Rich Twilley and asked if he knew Rohan. He did! (Smart guys stick together.) A few emails later and I had a lunch planned with Rohan and Twilley at Vito's On The Park in Hartford. I'd be lying if I said I wasn't a tad excited.

I should note that Rohan spent some time reading CTMQ and told me on two different occasions that he really enjoyed my (and my wife's) goal of [reading the Top 100 Modern Library Novels of the 20th Century](#). Be still my heart.

I did my research on the man. Rohan was born and raised in Jamaica and immigrated to the United States to attend the University of Connecticut to study civil engineering. He later became dually licensed as a professional engineer and land surveyor. My man owns and runs [Freeman Companies](#), which provides a diverse range of services in the areas of civil engineering, land surveying and environmental sciences.

You can read all about [his impressive academic and business accomplishments here.](#)

I love hiking and I love lists. Rohan takes both to new heights... Man, I hate bad puns like that when people who don't know me think I think they are clever... I love hiking and I love lists. Rohan has taken both to the extreme. I was fascinated to learn that he had never done "real" hiking until the early 00's when some friends took him up to the White Mountains. 15 years later, he was on top of freaking Mt. Everest.

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All that, and he still had to suffer the indignity of Al Terzi asking him if he saw the Yeti. [No, I'm not kidding.](#) (video)

Not only is Rohan a pioneer among the tiny fraternity of Seven Summitters, he is a CTMQ pioneer; he being the first person to submit to the CTMQ Interview. And for that, he is a true hero.

Let's get to it.



Nice blurry picture, Twill

.....

Q. In which town do you currently live?

Rocky Hill

Q. How did you come to live in Connecticut?

Good question! I grew up in Jamaica and my mom got married and moved to CT. I followed her here after finishing high school and went to UCONN.

Q. How long do you foresee yourself staying in Connecticut?

Hmmm... for the foreseeable future, however long that is. I have no plans to move currently; however, you never know what life may bring.

Q. What do you like most about Connecticut?

Its location to Boston and New York because I can get good flights to anywhere in the world and I love to explore those Cities as well. It also is a great state for outdoor activities with reasonable proximity to The White Mountains, Adirondacks, Vermont, Skiing, etc.. And of course, my friends and family.

Q. What do you dislike most about Connecticut?

It's somewhat parochial and I sometimes wished that more people here would have a global view point or understanding of the world.

Q. Without cheating, how many of the following 10 are names of Connecticut's 169 towns: Sterling, Sprague, Millerton, Voluntown, Warren, Farmingbury, Easton, Lisbon, Franklin, Sherman

I love this question, but I'm probably not the perfect candidate for this question, because I get

around quite a bit, so it's fun to test my knowledge. Here goes Sterling, Voluntown, Easton, Lisbon, Franklin and Sherman. I'm also thinking that Sprague could be, but I won't bite on it. My list stands.

Correct answer: Sterling, Sprague, Voluntown, Warren, Easton, Lisbon, Franklin, Sherman

Q. What is/are your favorite restaurant(s) in Connecticut?

Max Fish in Glastonbury and Vito's by the Park in Hartford.

Q. What is the most interesting museum in Connecticut you've ever been to, if any at all?

Surprisingly, I've actually been to a few because I love history and museums. I'm going to say Wadsworth Atheneum.

Q. What is one your favorite local/Connecticut factoids?

That CT has the highest income per Capita. Fairfield county has severely distorted this factoid!

Q.. Where is one of your favorite places to go hiking/walking in CT?

Giuffrida Park in Meriden is my favorite for a quick 1-2 hour hike when I limited time. It has great views, a short, steep and challenging section; pretty much a lot packed into a short hike. When I have more time I go to Bear Mountain in Salisbury.

.....

[Here's a little kid interviewing Rohan.](#) I should have taken notes.

.....

Q. You own your own Hartford-based firm. What are your thoughts regarding the current business climate in our fine capital city?

Hartford is making strides in the right directions, but still needs to do more. My personal feeling is that more needs to be done in to facilitate small, women and minority own businesses. Overall, I think that business is trending up.

Q. Colder: February 8 AM classes across UCONN's campus in 50 mph - er, 80.47 kph - winds - or summitting Denali?

Ha... Although I froze my butt of on Denali, I'll give the nod to those crazy cold UCONN days. I still have bad memories from walking across campus to get to class and have to duck into the student union building to warm up, even though my destination, the engineering building, was

only another 3 minutes away.

Q. Speaking of kph... You're an engineer and rely on precise measurements to perform your job. What are your feelings on the 4 decades-long metrification programme in your native Jamaica?

BTW, the metrification program is worldwide and the US is the one of a few places where it is not used. Needless to say, I wish we would just bite the bullet and change, instead of taking the easy way out. I grew up in Jamaica during the transition, so I learned both systems. I know this is not a direct answer, but it demonstrates my feeling.



Q. Let's be honest - is there any point to ever listening to reggae beyond the Bob Marley classics? If yes, defend your position.

ABSOLUTELY!!! Bob Marley, my all time favorite artist, took reggae global. Reggae is a very expressive music, and although the popular songs that make it on the radio may not demonstrate that, you can find really good stuff without trying too hard. A lot of reggae, not to be confused with the dance hall music that has taken over the island, tells the story/plight of

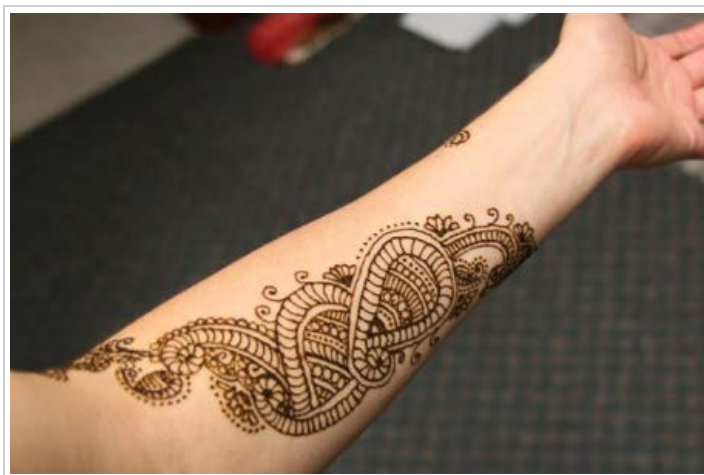
the people, but also gives praises to the deserving. That said, I don't really listen to too much of the new stuff, but that's probably because I'm stuck in my ways. I still love Peter Tosh, Bunny Wailer, Jimmy Cliff and the likes.

Q. UCONN's star soccer goalie, Andrew Blake, is from Jamaica and he's nasty. Do you get a chance to see any UCONN soccer? If so, with your influence as the first black guy to climb the Seven Summits, can you see about getting Ray Reid fired for underperforming every year in the playoffs?

Although I love soccer, I really don't get a chance to watch much, especially since I don't watch much TV. And I definitely don't watch much UCONN soccer, but I follow in the background. With respect to Ray Reid, my people are reaching out to his people to let him know that he needs to do a better job, or else he'll have to climb the seven summits!

Q. An anagram of Rohan Freeman is Forearm Henna. Do you know what henna is? Because you should now that you know this fact.

I'm clueless... I'll look it up after I send this email. Is this a Gary Busey-ism?



Forearm Henna = Rohan Freeman

Q. Part of your mission is to help the Boys and Girls Clubs and bringing the "great outdoors" to the attention of young minorities. Why do you think we so rarely see black people out hiking and

pretty much never on the high peaks? What can we do, as CT residents with a love for hiking, to help change the situation?

My personal feeling is that most blacks live in major cities and don't necessary identify with the outdoors or see the benefits of enjoying nature, especially when they are young. As adults making choices, they don't see the outdoors as an option for stress release or recreation. Most people, not just blacks, put too much emphasis on creature comforts and modern conveniences. Another reason is that the black population tend to identify success with main stream sports. These are not scientifically proven reasons, just my opinion, so if you happen to read this and get offend please don't email me any mean comments.

Q. Well, of course your guides on Kilimanjaro were Africans. When they saw you were they more confused or excited or nonplussed? And knowing a little bit about the climb and how methodical the pace is, even on the flatter lower slopes, did you just want to yell at them to move faster?

First, I never want to move faster, so I thoroughly enjoyed the pace of the climb. I wished more climbs were like this. The thing about Rohan in Africa is that sometimes I'm confused as African, which I find rather amusing and love it. I try to welcome it and buddy up to the locals, but once I open my mouth and they find out that I'm from the US it no different than being white!

Q. The worst thing to come out of Jamaica is: Callaloo, ganja stereotypes, the mean ladies who always serve me my Jamaican meat patties in Hartford or Sean Paul? Explain your choice.



Callaloo. For reals.

Haha... You do know a lot about the culture, which is unusual. Callaloo is good for you and is considered by many an integral part of the national dish, so it's not the obvious choice. Well, regarding the ganja stereotypes, your perception is your reality; hence, it's very real. If you look at the current marijuana trends in the US then it's only a matter of time before this stereotype become a nirvana, which is already is to many. I know what you mean about those Jamaican ladies, but I assume that you know that they are full of love and that's just their front. Don't mess with them though... Sean Paul is not that bad, but someone has to get the trophy for this contest, so he gets it. If he stayed true to the music then he would be high on this list. The moral of this story is never sell out! Ha...

Q. Irish Moss: Yes or No?

I used to drink it all the time. Not anymore, because I gave up gluten, dairy and wheat, so No!

At our lunch together, Rohan ordered a salad with grilled salmon on it. No dressing, no croutons, no cheese. He was in training for an Ironman or something. That's how you do it, people.

Don't know what Irish Moss is? [Here's an explanation](#). I've had it and it's awful.

Q. You're handsome bald man. When climbing the Seven Summits, did you wish you had a full head of knotty dreads to keep warm?

Thanks for the compliments. I climbed all the seven summits with a full head of hair, except for Carstenz Pyramid, so to answer your question directly - no! Ha, joke's on you!

Q. So you climbed the Seven Summits - are you a Messner guy or a Bass guy? (Mount Kosciuszko or Carstensch Pyramid)? An Elbrus is in Asia or an Elbrus is in Europe guy? And if the former, and you climbed Mont Blanc, was the pre- and post-climb food better anywhere than in France/Italy? (If you didn't do Blanc, where was the best food?) Do you get caught up in lists and the inherent difficulties in making such things definitive? I am. I'm sort of obsessed by it. If I complete [my 50 state highpointing list](#), will you join me for Denali?



Twilley's paying.

First things first, I'm definitely in for Denali when you're ready, so I'll be on you and your son to get the highpoints done! Get on it!!!

I'm a Bass guy through and through, but only because I paid attention in geography class in school. Carstensch Pyramid is in Asia, and I don't care how close to Australia it is or on what tectonic plate it lies, it is in Asia. You can't fool me. The "Seven Summits" is about climbing the high points on the traditional seven continents! Period! Done! No debate needed, unless of course you're a mountaineering snob who's looking to make the seven summits harder than it really is to eliminate the novice climbers due to the difficult factor of climbing Carstensch. I climbed it, so I can switch if I want and still claim the seven summits, but it's not one of them.

I'm an Elbrus is in Europe guy, albeit right on the border. Until the world atlas' are redefined along continental lines, I'll stay true to the historic continental divides with all the flaws and exclusions, etc... Funny how mountaineering is highlighting the flaws and discrepancies of our geography of the world. Kinda like religion and politics. Enough said because I don't want to open a can of worms.

I've not yet climbed Monc Blanc, but I'll be doing it with a group of friends from around the world, along with the Eiger and the Matterhorn this fall and I'm very much looking forward to it, and of course the food of France, Austria and Switzerland!

The best post climb food, by far, was in Nepal post Everest! You heard it here.

Awesome questions! I really enjoyed answering them.

Cool, thanks. And for those of you who enjoy more traditional interviews, here you are:

[Interview with Jamaica.com](#)

[Interview with Caribbean-American News](#)

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