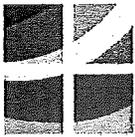


Brem-020-08-08-2014



BEALS + THOMAS

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August 8, 2014

Town of Carlisle
Zoning Board of Appeals
c/o Mr. Steven Hinton
66 Westford Street
Carlisle, MA 01741

R E C E I V E D
AUG 11 2014

TOWN CLERK-CARLISLE
CHARLENE M. HINTON

Via: e-mail to shinton@mindspring.com and FedEx

Reference: Response to Request to Provide Consulting Services
Chapter 40B Comprehensive Permit Application – Brem Property
100 Long Ridge Road
Carlisle, Massachusetts
B+T Project No. M7205.00

Dear Mr. Hinton and Members of the Board:

Beals and Thomas, Inc. is pleased to submit this letter of interest and the enclosed qualifications to assist the Town of Carlisle with review services for the Brem Property Development, a 20-unit residential development being proposed pursuant to a Chapter 40B Comprehensive Permit Application. Our qualifications and fee information are being submitted in response to the request on July 24, 2014 by Mr. Steven Hinton on behalf of the Zoning Board of Appeals (the Board).

We understand that the proposed development includes twenty (20) three-bedroom residential homes. The existing residence at the property will be maintained and nineteen (19) new single family homes are proposed. Domestic water service will be provided by shared private wells and sewage disposal will be provided by three (3) separate shared systems.

As the enclosed narrative will demonstrate, we offer extensive experience with assisting municipalities and municipal boards seeking similar services. We previously had the opportunity to assist the Town of Carlisle Zoning Board of Appeals with the review of the proposed Coventry Woods Development from 2005-2007. Our technical expertise, multidisciplinary staff, and commitment to dedicating a Senior Professional Engineer and Principal to direct our services can provide the Town of Carlisle with optimal communication, coordination and responsiveness. In addition, we have served as a consultant to the Massachusetts Department of Housing and Community Development since 2001, assisting communities and Zoning Boards of Appeals with the review of Comprehensive Permit Applications pursuant to MGL c. 40B. Beals and Thomas, Inc. has 30 years of experience in land-use planning, site planning, wetlands mitigation, zoning issues, and stormwater management for housing projects. Our experience with affordable housing projects includes

celebrating 30 years

**SECTION 1.0
INTRODUCTION**

1.1 Introduction

For 30 years, Beals and Thomas, Inc. (B+T) has been providing professional services that support the development and conservation of land and water resources throughout New England. We are committed to preserving the integrity of the New England landscape through sound environmental design, and have established a corporate identity based on a balanced perspective with the planning, development, and conservation of land and water resources. Our mission is to advocate and assist in the attainment of project goals by providing creative and solution-oriented land planning and design services that are balanced with an environmental ethic.

We specialize in civil engineering, planning, landscape architecture, environmental services, permitting, land surveying, and wetlands consulting. The combined perspectives of our multidisciplinary team provide the leadership and management necessary to address client and project needs in a comprehensive and responsive manner. We dedicate the necessary time and staff resources to meet project deadlines and ensure that our municipal clients are uniquely prepared to respond to a range of issues with timely and cost-effective solutions. Our ability to manage and our experience with large, complex projects includes a sensitivity which allows land development goals and objectives to be balanced with environmental and regulatory considerations.

We have assisted numerous municipalities, including the Town of Carlisle, with the review of projects, preparation of master plans, and downtown revitalization plans; and have assisted the MA Office of the Attorney General with land planning services to support eminent domain activities. We have also completed the design and permitting for major corporate campuses for EMC Corporation and Cisco Systems, Inc., park designs for the cities of Worcester and Brockton, mixed-use developments in Cambridge and significant urban projects; proactively incorporating sustainable design elements such as reclaimed water and stormwater treatment systems. We have assisted the MA Executive Office of Environmental Affairs with the review and summary of all Zoning Ordinances/Bylaws in the Commonwealth (with the exception of the City of Boston) to implement an online interactive computer analysis to evaluate various build-out scenarios. In summary, we offer a broad perspective to planning, design, and development services.

We have managed and completed various environmental planning projects and successfully received the local, state and/or federal authorizations for complex regulatory actions. B+T is distinguished from other consulting firms by our ability to interact and coordinate with various regulatory agencies. Our agency liaison and issue resolution capabilities stem from our approach, strategy development, preparedness, presentation skills and previous regulatory agency experience. In addition, our reputation and established relationships with agency personnel permit B+ T to advocate clients' interests through consultation and project coordination efforts and to negotiate a preferred course of action leading to successful project completion.



B+T is highly qualified to perform professional consulting services associated with the review of plans submitted to municipal boards and agencies, particularly ZBAs that are working through Ch. 40B permit applications and requirements. We have provided our expertise to the Massachusetts Housing Partnership, starting in 2008, and most recently with assignments in Concord, Milford and Sutton through the MHP consulting services program. Our consulting services have routinely incorporated and utilized the Regulations at 760 CMR 56 and the Department of Housing and Community Development (DHCD) Guidelines for Comprehensive Permits.

1.2 Project Team

We have assigned a core team of professionals to provide the services required by the Town of Carlisle. We have included dedicated personnel that may be required to assist with the review of planning, landscape architecture, survey, wetlands, and permitting, as may be dictated by the project. In addition to the core team, the full resources of our combined offices are available as dictated by the requirements of the project.

Many of our employees are professionally active with municipal boards in their communities, professional societies, and regional committees. We have been actively involved with technical advisory committees administered by the MA Department of Environmental Protection, including committees associated with reclaimed water, stormwater management, and Low Impact Development (LID) as necessary to maintain our industry leadership and to provide high quality services.

George Preble, PE, LSP – Project Director and Primary Contact



Mr. Preble will serve as the Project Director and primary point of contact throughout the duration of contract, responsible for the project review and coordinating communication with the Town of Carlisle. Mr. Preble has previously served as the Professional Engineer and Project Director for consultant services to assist the Town of Carlisle in 2005 through 2007 for the review of the Coventry Woods Comprehensive Permit Application.

Mr. Preble has been with B+T since 1987 and has directed numerous large- and small-scale civil and environmental engineering projects with regard to site planning, due diligence, construction issues, and the regulatory requirements for water resources planning. He has served as the Project Director and Professional Engineer for review services for several municipalities, including Amesbury, North Attleborough, Plymouth, Quincy, Randolph, Wellesley and Wrentham, Massachusetts. Mr. Preble has also provided presentations to professional organizations regarding the conduct of municipal peer review services, stormwater management and Low Impact Development.

Daniel Feeney, PE, LEED AP – Project Engineer



As a Principal with Beals and Thomas, Dan manages several of the firm's long-term projects, many of which include stormwater management design consistent with the Massachusetts Department of Environmental Protection Stormwater Management Standards, site layout and grading, construction cost estimating, utility research and design, earthwork analyses, water supply and fire protection studies, site work specification preparation, construction administration and air quality analyses. Dan is also an adept leader, providing his project team with guidance and knowledge throughout the process of civil and site design, and permitting for the firm's industrial, commercial and residential development projects.

David LaPointe, RLA, LEED AP – Lead Landscape Architect



Mr. LaPointe has significant experience spanning an array of project types including office buildings, institutional campuses, industrial facilities, recreational facilities and residential developments. He participated in the master planning of the redevelopment of the former Northampton State Hospital site to support a 476,000-square-foot mixed-use village, and managed the design and permitting of a 20-year phased expansion and improvement plan for the 36-acre Fay School campus in Southborough, at which LID techniques were incorporated and reclaimed water from the new wastewater treatment facility was utilized for toilet flushing. He was also instrumental in the development of a vision of the downtown Southborough commercial area. Mr. LaPointe is a former member of the Norfolk Planning Board and currently serves as a member of the Norfolk Design Review Board. He has participated in peer reviews of projects in numerous Massachusetts municipalities including Amesbury, Medway, Plymouth, Quincy, and Wrentham.

Stacy Minihane, PWS – Permitting Specialist



Ms. Minihane has extensive experience in wetland science, resource area delineation, environmental research and local, state, and federal permitting processes. Ms. Minihane's responsibilities include preparation and oversight of complex reports and permitting documentation. She provides project peer review services for various Conservation Commissions in Massachusetts. Ms. Minihane will be involved to supplement the review of the project where wetland issues are present that impact the development plan. The main purpose of her involvement will be to identify such constraints/issues for the Town's consideration. She has assisted with completing peer reviews of residential and commercial projects for the towns of Plymouth, Wrentham and Topsfield.

David Johnson, AICP - Senior Planner



Mr. Johnson has more than 30 years of experience as a Planner. He is a former municipal and regional planner and is experienced with the various elements of subdivision and site plan design and construction as well as municipal and state permitting. He routinely assists municipal clients with the peer review of subdivision and development applications, construction observations of projects for conformance with approved plans, and preparation of recommended revisions to Subdivision Rules and Regulations and Zoning Bylaws. He is also responsible for land planning, permitting, the initial design and review of commercial and residential developments, and is familiar with stormwater management requirements for development including the incorporation of LID techniques into the overall project design. Mr. Johnson is a long-term member of the East Bridgewater Planning Board and currently serves as Vice Chairman.

1.3 Subconsultants

For the review of traffic engineering related matters, we will be utilizing the services of Vanasse & Associates, Inc. (VAI). VAI provides traffic engineering and consulting services for both private sector and municipal clients for land development projects as well as providing peer review services. We also intend to engage the services of the Lightship Engineering, LLC Team as may be necessary to evaluate the potential impacts associated with the proposed sewage disposal system.

Information regarding these subconsultants is included in Appendix C.

1.4 Support Staff

B+T maintains a depth of staff between our offices in Southborough and Plymouth, MA that allows us to supplement the required services for this project as may be necessary. We have approximately 35 full-time employees representing various degrees, including civil engineering, landscape architecture, environmental management, land surveying, environmental studies, community planning and development, geology and biology. We currently staff eight (8) Professional Engineers, four (4) Registered Landscape Architects, three (3) Professional Land Surveyors, seven (7) LEED[®] Accredited Professionals, one (1) Licensed Site Professional, one (1) AICP-certified Planner and three (3) Professional Wetland Scientists.

Detailed resumes/qualifications for our core team are provided in Appendix A.

SECTION 2.0
REVIEW APPROACH AND SCOPE OF SERVICES

2.1 Review Approach and Scope of Services

We understand that our primary role will be to assist with the evaluation of the Brem Property Comprehensive Permit Application for the site planning and roadway design, stormwater management design, adequacy of the sewage disposal design, traffic impacts, pedestrian safety, evaluation of the extended length of the cul-de-sac; and, to present our findings and to provide support at the public hearings.

The principal objectives of our municipal review services are to ensure that a proposed project:

- Is compatible with existing development patterns and neighboring land use;
- Will not overburden the capacity of existing infrastructure and resources;
- Is consistent with the community long-range plan for growth and development;
- Conforms to zoning and development regulations;
- Conforms with standard engineering and planning practices.

Our municipal review services have focused on assisting local officials, boards, and commissions with evaluating a development proposal with regard to conformance with local planning and zoning regulations and comprehensive plans. Reviews and construction services are undertaken and are overseen by a Professional Engineer, Registered Landscape Architect, Certified Planner, Professional Land Surveyor, and Professional Wetland Specialist as may be dictated by the project. These services are completed in an objective and professional manner to assist the applicant and Town of Carlisle to develop a project that meets the needs of the community and the project proponent, and can function in a safe and efficient manner. We understand that these services need to be addressed in a timely manner, and in the case of construction issues, oftentimes in an immediate manner.

B+T proposes to approach the review of the Brem Property Comprehensive Permit Application in accordance with the defined requirements of the Town of Carlisle. We understand that the development project may require specific technical expertise to address unique site elements. We have the resources to assign the appropriate personnel under the direction of the principal point of contact to readily address services as necessary to complete a professional, high quality review.

2.2 Project Understanding

We appreciated the opportunity to discuss the project with Mr. Hinton on July 30, 2014 to gain an initial understanding of the assignment and expectations for services. We understand that the Board is seeking a consultant to focus on the following aspects of the proposed development:

1. Evaluation of the groundwater mounding and transport associated with the proposed sewage disposal areas. Two (2) sewage disposal areas are depicted on the plan: one located at the intersection of the proposed roadway with Long Ridge Road; and, a second area located at the northwest property area. A third sewage disposal area is located at the existing residence.
2. Evaluation of traffic and related emergency issues associated with the extension of the proposed cul-de-sac roadway to service the development.
3. Review of the design of the sewage disposal system.
4. General review of the site planning, access, stormwater management and utilities.
5. Fire Protection requirements as a consequence of the closely spaced housing units and proposed fire protection cistern.

2.3 Documentation Received

- *Application to Carlisle Board of Appeals for Comprehensive Permit per MGL Ch. 40B Brem Property An Affordable Single Family Residential Development 100 Long Ridge Road Carlisle, Massachusetts*, developed by Lifetime Green Homes, LLC, dated July 2, 2014.
- *Residential Site Plan for Comprehensive Permit – MGL CH 40B Brem Property Long Ridge Road Carlisle, Massachusetts*, dated June 30, 2014, prepared by Meisner Brem Corporation (1 sheet).
- *Preliminary Utility & Plan and Profile Brem Property 100 Long Ridge Road Carlisle, Massachusetts*, dated June 30, 2014, prepared by Meisner Brem Corporation (1 sheet).

We understand that a traffic report will be prepared subsequent to the collection of traffic data in September 2014. We also anticipate receipt of designs for the sewage disposal systems.

2.4 Typical Plan Review Technical Approach

As dictated by the specifics of the project, a Professional Engineer, Registered Landscape Architect, Certified Planner, or Professional Wetland Scientist will address the services. As requested, public hearings will be attended by the responsible Professionals to present the results of the services, and to be available to respond to questions.

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Appendices

- Appendix A: Project Sheets
- Appendix B: Statement of Qualifications
- Appendix C: Subconsultant Information

Town of Carlisle
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August 8, 2014
Page 2

services for private developers, municipal housing authorities, Zoning Boards of Appeals (ZBA) and the Massachusetts Housing Partnership (MHP).

The experience of our firm and key personnel includes peer review services, land planning, site engineering, permitting and construction observations. Our peer review services have been performed to assist ZBAs with the review of Comprehensive Permit Applications and municipal planning boards for housing that included an affordable component. The design, permitting and construction services have been performed for project proponents, as well as municipal entities. Consequently, our broad range of experience brings a balanced perspective to our consulting services.

Please find enclosed a summary of our firm's qualifications including municipal references, experience with MGL Ch. 40B regulations, our housing development process and projects, relevant experience with municipalities, team resumes, project information sheets and our fee schedule. In your review of these materials, we hope you agree that we are highly qualified to assist the Town of Carlisle.

We are available to commence services immediately and look forward to the opportunity to continue assisting the Town of Carlisle. If you have any questions, please do not hesitate to contact our office to discuss.

Very truly yours,

BEALS AND THOMAS, INC.



George G. Preble, PE
President

GGP/RPK/cp/ars/M720500PR001

RECEIVED
AUG 11 2014

TOWN CLERK-CARLISLE
CHARLENE M. HINTON

2.4.1 Site Visit

Upon authorization to proceed and receipt of the complete application package, we will conduct a site visit. We will perform a site reconnaissance to gain familiarity with surrounding land use patterns, proposed site access, and evaluate the conditions with regard to the proposed development. Preferably, the Applicant's consultants will be present during the site visit to be available to respond to initial questions.

2.4.2 Initial Meeting

As dictated by the scope and complexity of the project, we will meet with the Town of Carlisle to identify relevant issues related to the project. We will review the goals of the project, and establish a protocol for communication and the means for obtaining clarification and additional information for the review of the proposed development.

2.4.3 Initial Document Review/Summary Report

We will review the application documents, plans, calculations and supporting information, and prepare a detailed letter/report to the Town of Carlisle describing the findings of the review with respect to the aforementioned objectives. The letter/report will be stamped by a Professional Engineer, and other registered professionals as may be necessary. Our letter/report will include, but not be limited to, a review of the design and layout, landscape design as may be appropriate, site access, stormwater management system, sewage disposal, traffic and transportation, cisterns proposed for fire protection, erosion and sedimentation control, drainage, and road and intersection design. The review letter is intended to be provided in advance of the public hearing to assist the Town of Carlisle with an understanding of the project and identified issues. We will issue the review letter one (1) to two (2) weeks subsequent to receipt of complete information from the Applicant as dictated by the complexity of the proposed project. The review letter also provides an opportunity for the Applicant to respond to issues prior to the public hearing during which the project will be addressed. In our experience this process improves the efficiency of the review.

Vanasse & Associates, Inc. will conduct a review of the traffic report when available after the traffic data collection by the Applicant in September 2014.

The Lightship Engineering, LLC Team will utilize Key Environmental Incorporated for the hydrogeological evaluation services and will complete calculations to evaluate potential effects to groundwater quality for the proposed sewage disposal system with emphasis of the potential impacts to adjacent potable water supplies.

2.4.4 Meeting Preparation and Public Hearing Presentations

As requested, we will attend the public hearings to present the conclusions and recommendations identified during our review. We anticipate attendance by the Professional Engineer, and/or other registered professionals as may be necessary, to present the engineering evaluation and related issues. We have included an allowance for attendance at two (2) public hearings.

2.4.5 Supplemental Review

We anticipate that we will be required to conduct a review of supplemental documents and plan revisions as a component of the Applicant's response to our initial comments and those presented by municipal agencies. Our initial comments are intended to be comprehensive, and we expect that the Applicant's representatives will provide comprehensive responses and supplemental information if requested. We anticipate closure of our comments subsequent to our review of supplemental material.

SECTION 3.0
RELEVANT EXPERIENCE

3.1 Relevant Experience

Beals and Thomas, Inc. has experience providing similar services for the following municipalities:

- **Town of Carlisle Zoning Board of Appeals, Carlisle, MA (2005-2007)**

Beals and Thomas assisted the Zoning Board of Appeals with the review of a Comprehensive Permit Application for the Coventry Woods development. The project consisted of 41 housing units located on a single-access roadway, with on-site sewage disposal and water supply wells. Initially, the project proposed 55 units; however, as a consequence of our initial review and Board comments, a reduction of the project density was proposed. Anderson & Krieger, LLC, Special Town Counsel, requested our evaluation to address numerous issues, including blasting impact requirements, water supply pump testing, the protocol to evaluate impacts to abutting property wells, evaluation of fire protection water supply cisterns, earthwork analysis, alternative sewage disposal systems, and landscape architecture. We attended numerous public hearings and participated in a series of meetings that consisted of representatives from the Planning Board, Board of Selectmen, Conservation Commission, Board of Health, Building Department, Department of Public Works, Town Counsel, and other municipal departments in order to review the proposed conditions required for the project.

- **Town of Foxborough Zoning Board of Appeals, Foxborough, MA (2003-2005)**

B+T assisted the Town of Foxborough Zoning Board of Appeals with review services for Cocasset Place Condominiums, a 12-unit multi-family development project located at 84 Cocasset Street. The development project was submitted pursuant to Chapter 40B as a comprehensive permit application. The review identified significant issues associated with the documentation for the proposed stormwater management infiltration system, installation of utilities, and the sight distance issues at the proposed access driveway. We coordinated with the Town Planner and representatives of the Applicant to assist with the resolution of these issues, and presented the results of the review at the public hearings. In addition, we completed the review of a proposed 250-unit apartment development project, "The Lodge at Foxborough Apartments" for the Town's Zoning Board of Appeals. This proposed project was subject to Chapter 40B Comprehensive Permit Application. We provided comments to the Zoning Board of Appeals regarding the adequacy of sewage disposal, stormwater management, and access issues. Additionally, B+T assisted the Foxborough Zoning Board of Appeals with review services for a proposed 20-unit housing development to be constructed for the Foxborough Housing Authority on two parcels located adjacent to Baker Street. B+T conducted a review of the site design, stormwater management design, and engineering design prepared to support a Comprehensive Permit Application submitted by the Foxborough Housing Authority pursuant to Chapter 40B.

- **Town of Foxborough Planning Board, Foxborough, MA (2005-2006)**

B+T assisted the Foxborough Planning Board with review services for the proposed redevelopment of the former Foxborough State Hospital campus. B+T reviewed the civil engineering and site design elements of each phase of the redevelopment with respect to Foxborough Zoning By-laws and Foxborough Subdivision Regulations. We also reviewed the redevelopment Master Plan for overall site layout and planning, including proposed vehicular and pedestrian connections to determine how the development would relate with the surrounding existing land uses. We identified critical design elements necessary to advance the phased site development filings and recommended design guidelines to be established.
- **Town of Mattapoisett Planning Board, Mattapoisett, MA (2002-2004)**

B+T assisted the Mattapoisett Planning Board with review services for The Bay Club at Mattapoisett. The project includes approximately 625 acres located between I-195 and Route 6 in Mattapoisett adjacent to the Town of Marion municipal boundary. The proposed definitive cluster subdivision proposes residential lots, an 18-hole golf course, and amenities along a network of nine (9) roads, totaling approximately 21,000 feet of roadway. Our review identified significant issues associated with the documentation for the proposed stormwater management; access issues; and the need to confirm the adequacy of water supply and sewage disposal. We recently assisted the Planning Board with the review of a definitive subdivision application for a project proposed within the coastal flood zone. We have assisted the Planning Board with the identification of numerous issues for consideration.
- **City of Amesbury Planning Board & Conservation Commission (2005 – Present)**

Since being engaged in 2005, we have assisted the Planning Board and Conservation Commission with the review of development plans for a variety of projects; specifically, providing an evaluation of stormwater management, vehicular and pedestrian circulation, landscape architecture, permitting, zoning, and site planning. We also assist the Planning Board with the observation of construction activities and erosion control, as well as the preparation of bond estimates.
- **Town of Topsfield Planning Board, Conservation Commission and Board of Health (2009 – Present)**

B+T provided services to assist the Planning Board with the review of the Special Permit and Site Plan for the proposed development “New Meadows Elderly Housing”. Review of this project included evaluation of the stormwater management and Scenic Road components. Services were also provided to the Conservation Commission for the review of the Notice of Intent documents for the proposed project. In addition, we also reviewed the design and provided comments on the shared septic system for the Board of Health. We have also provided construction observation services to the Town for the project.

- **Town of Westwood Planning Board, Westwood, MA (2002-2012)**

B+T performed review services for the Westwood Planning Board in association with a proposed 22-lot residential subdivision development on an approximate 70-acre site in Westwood, Massachusetts. The application for the residential subdivision was filed under Section 16C, Major Residential Development of the Westwood Zoning Bylaw. Section 16C allows for “greater flexibility and creativity in residential development,” while ensuring that certain goals are reached. These goals include the protection of open space, wetlands and other wildlife habitats; the protection of community character by preserving scenic vistas, historic resources, and street appearance; the use of efficient patterns of construction and maintenance of public facilities and services; the continuation of the social and economic diversity of the community; the allowance of privacy for residents of individual lots; and the avoidance of unnecessary development costs. As required by the Bylaw, the Applicant submitted both a Basic Development Plan and an Alternative Development Plan.

B+T has completed the review of two senior housing projects for the Planning Board for sites adjacent to Route 109 that both have access, drainage, and density issues that affect the neighborhood and aesthetics. One project is 25± and the second is 125± units. The 25-unit project is under construction. Although the 125-unit project was permitted, it was never constructed.

- **Town of North Attleborough Planning Board and Conservation Commission (2010 – Present)**

In 2010, B+T was awarded a municipal contract to assist the Planning Board, Conservation Commission, and Board of Health with coordinated review services for development projects. Subsequently, we have assisted with the review of numerous projects including a townhouse development, the expansion of a manufacturing facility, the review of various residential subdivisions, a review of a proposed automobile dealership, the review of a proposed industrial subdivision roadway, and with the preparation of proposed amendments to the site plan review by-law. These services include review of the permit application documents, as well as construction administration assistance. We have assisted the Town of North Attleborough with the review of development plans and/or construction issues for more than 20 projects since being engaged in 2010.

- **Town of Plymouth Department of Planning and Development (2006 – Present)**

B+T assists the Plymouth Department of Planning and Development with peer reviews and we oversee the construction administration for commercial and residential developments. These services include review of development applications, establishing bond estimates and resolving construction issues. We have assisted the Town of Plymouth with the review of development plans and/or construction issues for more than 70 projects since being engaged in 2006.

We completed a review of the site plans for the expansive redevelopment project, “The Seaport at Cordage,” a project undertaken in accordance with 40R zoning initiatives, and the Master Plan and Phase I development for the “Plymouth Rock Studios” project. We provided a review of five (5) distinct wind turbine projects, including the “Future Generation Wind Project”, which proposed five (5) 100 meter wind turbines on an existing cranberry farm. We have also reviewed projects on behalf of both the Planning Board and Conservation Commission; providing comments with regard to stormwater management, wetland resource area delineations, compliance with the Wetlands Protection Act and local bylaw and regulations, pedestrian and vehicular circulation and site design. In addition, we have assisted the Planning Board with the revisions to sections of the Subdivision Rules and Regulations, and provided a pro-bono review of the recently revised local wetlands regulations promulgated by the Conservation Commission.

B+T also provided the Town of Plymouth with a Non-Motorized Transportation & Signage Master Plan that serves as a development guideline for the Town.

- **Town of Wrentham Planning Board (1995 – Present)**

B+T has been providing consulting services to the Town of Wrentham Planning Board since 1995. We have reviewed over 95 projects, including residential subdivisions, open space subdivisions, a major truck terminal facility, a service station facility, the new Town Hall and Emergency Services Facility, a municipal parking facility, the Wrentham Village Premium Outlets, earth removal operations, a sports facility, and numerous commercial and residential developments. We conduct site visits, attend public hearings, review submittal packages, and provide the Wrentham Planning Board with an evaluation of the proposed projects with respect to the municipal Subdivision Rules and Regulations, Site Plan Review requirements, applicable zoning bylaws, and DEP Stormwater Management Handbook. We have also assisted the Town of Wrentham with regard to construction issues, construction inspections, the evaluation of appropriate stormwater management methodology, planning initiatives, and the evaluation of proposed revisions to the Subdivision Rules and Regulations and Zoning Bylaws.

- **Town of Wrentham Zoning Board of Appeals (2004 – Present)**

B+T assists the Town of Wrentham Zoning Board of Appeals with services to review Special Permits and Comprehensive Permit Applications. We assisted with the review of the Eaglebrook Village Comprehensive Permit Application, which included 100 residential units comprising a mix of age-restricted townhouses, condominiums, and single-family homes within an Aquifer Protection District. We provided extensive comments and recommendations to address the master planning of adjacent commercial areas, aquifer protection, stormwater management, roadway layout, earthworks, open space and zoning issues, and undertook a detailed analysis of local regulations to evaluate waivers requested by the Applicant. We also assisted the Zoning Board of Appeals with the review services for Comprehensive Permit Applications for the proposed 32-residential unit West Wrentham Village project, the 30-condominium unit Maplewood Village project, and the proposed development of a CVS Pharmacy and redevelopment of King Philip Plaza.

- **Wrentham Conservation Commission (2007 – Present)**

B+T provides services to assist the Town of Wrentham Conservation Commission with the review of commercial and residential projects. Based on the requirements of the Conservation Commission, we have reviewed wetland delineations, stormwater management designs and permit applications. We have provided written reports to summarize the results of our reviews, and attended public hearings to present the results of our reviews.

3.2 Relevant Projects

Beals and Thomas, Inc. has been involved with the design, development review and permitting of numerous comprehensive permit developments under Chapter 40B. In order to successfully complete these projects, we have consistently adhered to requirements and regulations set forth in Ch. 40B and the MHP Guidelines. A sampling of our relevant project experience follows:

- Land planning, civil engineering and permitting for the 24 single-family homes at Asbury Woods in Hamilton, Massachusetts. 1992. (Fully constructed and occupied.)
- Property evaluations for the Massachusetts Housing Partnership in various communities across the Commonwealth. 1992.
- Successful MEPA review for Charlestown Meadows (Avalon West) in Westborough, Massachusetts, a 274-unit multi-family building. 1988.
- Design and permitting services for the Andrews School in Holliston, Massachusetts including septic design, grading and plan preparation. 2002
- Review of Cocasset Place Condominiums Application on behalf of the Town of Foxborough Zoning Board of Appeals. 2003.
- Review of the Lodge at Foxborough Apartments on behalf of the Town of Foxborough Planning Board. 2004
- Review of West Wrentham Village Comprehensive Permit Application on behalf of the Wrentham Zoning Board of Appeals. 2004.
- Review of The Lodge at Foxborough Apartments Comprehensive Permit Application on behalf of the Foxborough Zoning Board of Appeals. 2004.
- Review of Eaglebrook Village Comprehensive Permit Application on behalf of the Wrentham Zoning Board of Appeals. 2005.
- Review of the Foxborough Housing Authority Comprehensive Permit Application on behalf of the Foxborough Zoning Board of Appeals. 2005.
- Design, permitting and construction services for the Cutler School Property in Holliston, Massachusetts including soil testing, septic review and schematic designs. 2006 (Construction completed.)
- Review of a 200-unit Comprehensive Permit application on behalf of the Amesbury Planning Board. 2006

- Review of a 56-unit condominium complex at Coventry Woods on behalf of Carlisle Zoning Board of Appeals. 2007
- Permitting and site engineering for Shovel Shop Square in Easton, Massachusetts a 113-unit 40B housing project. 2007 (Project completed.)
- Review of Maplewood Village Comprehensive Permit Application on behalf of the Wrentham Zoning Board of Appeals. 2007
- Review of Eaglebrook Village a 104-unit mixed use Comprehensive Permit Application on behalf of the Wrentham Zoning Board of Appeals. 2008
- Review of a definitive 40B plan for Bartlett Pond Pasture on behalf of the Plymouth Zoning Board of Appeals. 2008
- Review of a 60-unit residential 40B building at Waterview Commons on behalf of the Town of Sutton. 2009
- Review of a 180-unit residential 40B permit application at Quarry Pond Village on behalf of the Town of Milford. 2009
- Site plan preparation and permitting for Eaton Place in Franklin, Massachusetts for 50-supportive living units. 2010
- Site planning and permitting to support a comprehensive permit for rental units at Winterbury Hollow in Holden, Massachusetts along with a Definitive Plan to the Zoning Board of Appeals. 2012
- Review of a 12-unit residential 40B development at Woods at Wrentham on behalf of the Wrentham Zoning Board of Appeals. 2012
- Review of the final plans for a residential 40B development at the Village at Sawmill Woods on behalf of the Plymouth Zoning Board of Appeals. 2014
- Expert testimony for the Massachusetts Office of the Attorney General related to eminent domain land takings that were the subject of 40B development proposals.

SECTION 4.0
REFERENCES

4.1 REFERENCES

- Mr. Lee Hartmann, Director of Planning & Development, Town of Plymouth, MA
Town Hall, 11 Lincoln Street, Plymouth, MA 02360
lhartmann@townhall.plymouth.ma.us
(508) 747-1620
- Ms. Roberta M. Knight, Purchasing & Community Development Coordinator
Town of Topsfield, 8 West Common Street, Topsfield, MA 01983
rknight@topsfield-ma.gov
(978) 887-1504
- Ms. Paige Duncan, Town Planner, Town of Wrentham, MA
Town Hall, Room 212, 79 South Street, Wrentham, MA 02093
pduncan@wrentham.ma.us
(508) 384-5441
- Mr. Nicholas Verenis, Economic Development Planner, City of Quincy, MA
1305 Hancock Street, Quincy, MA 02169
nverenis@quincyma.gov
(617) 376-1362

SECTION 5.0
RESUMES

George G. Preble, PE, LSP

President

Education

B.S., Civil Engineering,
Merrimack College, 1980

Professional Licensure

Professional Engineer – MA, NH,
ME, CT, RI

Licensed Site Professional – MA

Professional Affiliations

495/Metrowest Corridor Partnership,
Water Resources Committee Co-Chair
American Society of Civil Engineers
Boston Society of Civil Engineers
Congress for New Urbanism
Licensed Site Professional Association
Urban Land Institute

Years of Experience

Beals + Thomas: 27
Total: 34

George has over 30 years of civil and environmental engineering experience, and serves as a consultant for major corporations as the client's representative for strategic development, environmental investigations, and water resources planning. He has extensive experience providing consulting services to Planning Boards, Conservation Commissions and Zoning Boards of Appeals who rely on his evaluation of proposed development projects.

George is instrumental as the Co-Chair of the 495/Metrowest Corridor Partnership Water Resources Committee. He has also served on the Massachusetts Department of Environmental Protection's Reclaimed Water Regulations Task Force, making him one of the firm's experts in water resources planning. He has presented at topics ranging from due diligence, low impact development, stormwater management design, peer review services, reclaimed water applications, and the influence of rising sea levels to coastal communities.

Relevant 40B Project Experience

Ames Shovel Works Apartments, Easton, MA
Carlisle Zoning Board of Appeals
Foxborough Zoning Board of Appeals
Randolph Zoning Board of Appeals
Wrentham Zoning Board of Appeals

Additional Project Experience

Amesbury Planning Board, Amesbury, MA
Gloucester Planning Board, Gloucester, MA
Plymouth Planning Board & Conservation Commission Review Services, MA
Quincy Department of Planning and Community Development, Quincy, MA
Wellesley Natural Resources Commission, Wellesley, MA
Wrentham Planning Board, Wrentham, MA
Wrentham Zoning Board of Appeals, Wrentham, MA
Environmental Site Assessment Services, Multiple Sites, MA
Mesoscale and Microscale Air Quality Analysis Services, Multiple Sites, MA
Residences at Tihonet Pond, Wareham, MA
Maple Springs Residential Cluster Subdivision, Wareham, MA
Mayflower Place Regulatory Assistance, Yarmouth, MA
Greylock Glen, Adams, MA
Camp Pembroke, Pembroke, MA
Golf and Practice Center, Marlborough, MA
Camp Harborview, Boston, MA
Lovells' Grove & King's Cove, Weymouth, MA
Village Hill Northampton, Northampton, MA
ADM Tihonet Mixed Use Development, Wareham, Carver, Plymouth, MA
Former Lyman School for Boys, Westborough, MA
MassPort Logan Express, Framingham, MA
Cisco Systems New England Development Center, Boxborough, MA
EMC Corporation, Bellingham, MA
Allston Property Restoration, Allston, MA
Stanford Research Park, Palo Alto, CA

George G. Preble, President

Natick Mall, Natick, MA
Arcade at Downtown Framingham, Framingham, MA
Perini Corporation Facility, Ashland, MA
Perini Corporation Headquarters, Framingham, MA
Former Boston Latin Academy, Boston, MA
NSTAR Vehicle Maintenance Facility, Yarmouth, MA
NSTAR Power Station Expansion Exhibit Preparation, Various, MA
NSTAR Boat Slip Remediation and Mitigation, New Bedford, MA
Bog Road Reconstruction, Barnstable, MA
Rosebrook Solar Energy Project, Wareham, MA
Tihonet West Solar, Wareham, MA

Publications

Draisen, M., Matthews, P., Dann, R., Reardon, T., Sellars, J., Cleaves, S., Pillsbury, M., Preble, G., Allen, K., Begelfer, D., Bryant, N., Ploetz, A. "SummerSmart Water Use: A Guide to Peak Season Water Demand Management" Metropolitan Area Planning Council and 495/MetroWest Corridor Partnership (May 2006).

Draisen, M., Matthews, P., Pillsbury, M., Reardon, T., Preble, G., Hubbard, T., Allen, K., Begelfer, D., Bryant, N. "Once Is Not Enough: A Guide to Water Reuse in Massachusetts" Metropolitan Area Planning Council and 495/MetroWest Corridor Partnership (November 2005).

Presentations

Preble, G., Cullen, K., Morrison-Logan, G. "Design for Density with Limited Infrastructure" Workshop presentation at the Citizen Planner Training Collaborative 2014 Annual Conference. Holy Cross College, Worcester, MA (March 15, 2014).

Preble, G., Maguire, K., Massard, V. "Creating the Box – Structure for Regulatory Change" Workshop presentation at the Massachusetts Association of Planning Directors 2010 Annual Conference. Plymouth, MA (June 3, 2010).

Preble, G., Wilson, K., Duncan, P. "Peer Review" Workshop presentation at the Massachusetts Association of Planning Directors 2010 Annual Conference. Plymouth, MA (June 3, 2010).

Preble, G., "Low Impact Development and Urban Applications" Presentation to the City of Quincy and for broadcast on cable television. Quincy, MA (May 6, 2009).

Preble, G., Horsley, S., Feuerbach, P. "Positive Impact Development and Green Design" Workshop Presentation at the Massachusetts Association of Conservation Commissions (MACC) Annual Conference at the College of the Holy Cross. Worcester, MA (February 8, 2009).

George G. Preble, President

Preble, G., Pillsbury, M., Ploetz, A. "Sustainable Water Resource Management" Presentation at the 2008 American Planning Association National Conference. Las Vegas, Nevada (April 29-May 1, 2008).

Preble, G., Pillsbury, M., Ploetz, A. "Sustainable Water Resources Management in Massachusetts" Workshop Presentation at the 5th Annual Water Resources Conference and Workshop Attendance at the University of Massachusetts. Amherst, MA (April 8, 2008).

Preble, G., Horsley, S., Feuerbach, P "Low Impact Development Principles & Techniques" Workshop Presentation at the Massachusetts Association of Conservation Commissions (MACC) Annual Conference at the College of the Holy Cross. Worcester, MA (March 1, 2008).

Preble, G., Pillsbury, M., Matthews, P. "Trends and Tasks for a Water Smart Region" Presentation at the New England Water Works Association Annual Conference. Providence, RI (September 19, 2007).

Feuerbach, P., Horsley, S., Preble, G. "Low Impact Development (LID): Principles and Techniques." Presentations at 2006 and 2007 Massachusetts Association of Conservation Commissions (MACC) Annual Environmental Conferences. Worcester, MA. (March 4, 2006 and March 3, 2007).

Daniel M. Feeney, PE, LEED AP

Principal

Education

B.S., Civil Engineering, Villanova University, 1994

Professional Licensure

Professional Engineer – MA
LEED Accredited Professional

Professional Affiliations

Civil Engineering Honor Society
Builders Association of Central Massachusetts

Years of Experience

Beals + Thomas: 19
Total: 20

As a Principal with Beals and Thomas, Dan manages several of the firm's long-term projects, many of which include stormwater management design consistent with the Massachusetts Department of Environmental Protection Stormwater Management Standards, site layout and grading, construction cost estimating, utility research and design, earthwork analyses, water supply and fire protection studies, site work specification preparation, construction administration and air quality analyses. Dan is also an adept leader, providing his project team with guidance and knowledge throughout the process of civil and site design, and permitting for the firm's industrial, commercial and residential development projects.

Relevant Project Experience

Shovel Shop Apartments, Easton, MA

Additional Project Experience

Plymouth Trial Courthouse, Plymouth, MA

Harvard Vanguard Medical Associates Office Building, Concord, MA

EMC Corporate Campus Development, Hopkinton/Southborough/
Westborough/Bellingham, MA

Former Cutler School, Holliston, MA

Engineering Review Services, Amesbury, MA

Engineering Review Services, Wrentham, MA

Plymouth Trial Courthouse, Plymouth, MA

TRANSFLO Terminal Redevelopment, Westborough, MA

Harvard Vanguard Medical Associates Office Building, Concord, MA

Raynham Woods Medical Office Building, Raynham, MA

i-Park, Waltham, MA

City Hall Annex, Cambridge, MA

Society of Saint John the Evangelist, Cambridge, MA

Schwan's Food Distribution Facility, Raynham, MA

Cisco Systems' New England Development Center, Boxborough, MA

Chestnut Industrial Park, Ashland, MA

Commercial Property, Roslindale, MA

EMC Corporate Campus Development, Hopkinton/Southborough/
Westborough/Bellingham, MA

Crossroads Industrial Park @ 495 Center, Northborough, MA

Shovel Shop Apartments, Easton, MA

New England Automotive Gateway, Spencer, MA

Archstone North Point, Cambridge, MA

Former Cutler School, Holliston, MA

Former Andrews School, Holliston, MA

Sudbury River Townhouses, Hopkinton, MA

Hearth Ridge Manor, Hopkinton, MA

Private Residence, Southborough, MA

Brooksby Village, Peabody, MA

Athletic Complex, Marlborough, MA

Athletic Complex, Bellingham, MA

Mohegan Sun Massachusetts, Palmer, MA

Expert Witness Services on behalf of the MA Office of the Attorney General,
Various Towns, MA

David J. LaPointe, RLA, LEED AP

Associate

Education

B.S., Landscape Architecture,
University of Massachusetts, 1991

Professional Licensure

Registered Landscape Architect –
MA, RI, CT, NH, ME, VT
LEED Accredited Professional
Certified with the Council of Landscape
Architectural Registration Boards

Professional Affiliations

American Society of
Landscape Architects
Boston Society of Landscape Architects
Leadership MetroWest
Leadership Academy
Norfolk Design Review Board

Years of Experience

Beals + Thomas: 16
Total: 16

Dave is an experienced landscape architect and serves as a Project Manager for an array of project types, including office buildings, institutional campuses, industrial facilities, recreational areas and residential developments. He provides leadership to the professional staff as they develop site layouts, grading and landscape design for development projects, ensuring that site designs comply with applicable regulatory provisions. Dave also supervises the preparation of permit application documents and provides technical presentations at public hearings.

Dave has developed team-building, leadership, and problem-solving skills through his participation in the MetroWest Leadership Academy, which explores regional issues such as government, economy, education, public safety, diversity, arts, environment, housing and transportation. He is a past member of the Norfolk Planning Board and is thoroughly knowledgeable in municipal permitting processes.

Relevant 40B Project Experience

Ames Shovel Works Apartments, Easton, MA
Cutler Heights Housing, Holliston, MA

Additional Project Experience

The Home for Little Wanderers Longview Farm, Walpole, MA
Fay School, Southborough, MA
Bentley College, Waltham, MA
Dexter School, Brookline, MA
GAF Materials, Millis, MA
ISO New England, Holyoke, MA
Village Hill Northampton, Northampton, MA
Lawrence General Hospital, Lawrence, MA
Emerson Hospital, Concord, MA
The MITRE Corporation, Bedford, MA
Carousel Office Center, Framingham, MA
Waverly Oaks Office Park, Waltham, MA
ASTRA Pharmaceuticals, Westborough, MA
Carmelite Sisters Monastery, Danvers, MA
Chinese Gospel Church, Southborough, MA
Beech Tree Park at Village Hill Northampton, Northampton, MA
Elm Park, Worcester, MA
University Park, Worcester, MA
Goodwill Park, Holliston, MA
Vision Plan, Norfolk, MA
Graverson Playground, Waltham, MA
Mountain Park, Holyoke, MA
Cronin's Landing Riverwalk, Waltham, MA
EMC Park, Hopkinton, MA

David J. LaPointe, RLA, LEED AP, Associate

South End Tenants Housing I (SETH I), Boston, MA
Non-Motorized Transportation and Signage Plan, Plymouth, MA
Obery Street Streetscape Improvements Evaluation, Plymouth, MA
Main Street Streetscape, Southborough MA
Municipal Review Services, Various, MA

Publications

LaPointe, D. "The Home for Little Wanderers: Making Some Progressive Moves" High Profile Monthly. Pembroke, Massachusetts (September 2011).

Stacy H. Minihane, PWS

Associate

Education

B.A., Biology and Environmental Studies,
Bowdoin College, 2003

Professional Licensure

Professional Wetland Scientist

Professional Affiliations

Association of Massachusetts
Wetland Scientists
Society of Wetland Scientists

Years of Experience

Beals + Thomas: 9

Total: 9

Stacy has extensive experience in wetland science, resource area delineation, environmental research and local, state, and federal permitting processes. Stacy's responsibilities at Beals and Thomas include the execution and oversight of wetland delineations, wildlife habitat evaluations and natural resources inventories, and preparation and oversight of complex environmental and wetland-related reports and permitting documents. She also provides project peer review services for various Conservation Commissions in Massachusetts. Stacy often educates colleagues on changes in environmental regulations through her writings and in-house seminars.

Relevant 40B Project Experience

South Village Condominium Development, Randolph, MA
Bartlett Pond Pasture, Plymouth, MA
Marion Village Estates Peer Review, Marion, MA

Additional Project Experience

Avon Industrial Park Wetland Resource Area Confirmation, Avon, MA
ADM Tihonet Mixed Use Development, Wareham/Carver/Plymouth, MA
NorthPoint, Cambridge, MA
Whitin Mill Redevelopment, Whitinsville, MA
Utility Transmission Structure Maintenance/Replacement,
Framingham/Natick/Sherborn, MA
Utility Pole Replacement, Marshfield, MA
Right-of-Way Access Road Regulatory Compliance Review, Mattapoissett, MA
Contaminated Boat Slip Remediation and Mitigation, New Bedford, MA
Salt Marsh Creation, New Bedford MA
Salt Marsh Restoration, Fairhaven, MA
Parking Facility, Yarmouth, MA
Bird Machine Company Site Remediation, Walpole, MA
Russell Biomass, Russell/Montgomery/Westfield, MA
Pilgrim Station Intake Channel Dredging, Plymouth, MA
Pilgrim Nuclear Power Station, Plymouth, MA
Tihonet West Solar, Wareham, MA
Tihonet East Solar, Wareham, MA
Charlotte Furnace Solar, Wareham, MA
Federal Road Solar, Carver, MA
Hale Reservation Natural Resources Inventory, Westwood/Dover, MA
Osborne Property Pond Dredging, Lincoln, MA
Wight Pond Management and Residential Development, Dedham, MA
Tidal Shoreline Stabilization, Quincy, MA
Hartwell Forest Boardwalk, Bedford, MA
Old Town Hill Salt Marsh Restoration, Newbury, MA
Wetlands Banking Pilot, Hanson, MA
World's End Reservation, Hingham, MA
Brae Burn Country Club, Newton, MA
Concord Country Club, Concord, MA

Stacy H. Minihane, Associate

Camp Harbor View, Boston, MA
Camp Pembroke Improvements, Pembroke, MA
Tihonet Boat Launch Improvements, Wareham, MA
Town Park at Tihonet Road, Wareham, MA
Athletic Complex, North Smithfield, RI
Elm Park Improvements, Worcester, MA
University Park Improvements, Worcester, MA
Conservation Commission Peer Reviews, Wrentham, Cohasset, Plymouth, Wellesley, Topsfield, MA
Open Space & Recreation Plans, Cohasset, Bourne and Hanover, MA
Bog Road Reconstruction, Barnstable, MA
Natural Resources Commission/Wetlands Protection Committee Peer Review, Wellesley, MA
Planning Board and Conservation Commission Peer Review, Topsfield, MA
Planning Board and Conservation Commission Peer Review, Plymouth, MA
Private Residence, Marion, MA
Jefferson at Basilica Court, Boston, MA
Jefferson at Melrose, Melrose, MA
Private Property, Wareham, MA
The Glen, Scituate, MA
Municipal Review Services, Various, MA
Permitting Analyses, Various, MA
Environmental Site Assessments, Various, MA
Judge Rotenberg Center, Canton, MA

Presentations and Publications

Minihane, S. "Design of a Pilot Wetlands Mitigation Bank in Massachusetts" Poster Presentation at the International Society of Wetland Scientists 2010 Annual Meeting. Salt Lake City, Utah (June 27-July 2, 2010).

Las, E., Minihane, S., & Miley, D., "A Pilot Wetlands Mitigation Bank in the Taunton River Watershed" Association of Massachusetts Wetlands Scientists Newsletter. Vol No 59 (October 2006): 8-9. Print.

Lichter, J., Barron, S., Bevacqua, C., Finzi, A., Irving, K., Stemmler, E., & Schlesinger, W. "Soil Carbon Sequestration and Turnover in a Pine Forest after Six Years of Atmospheric CO₂ Enrichment" Ecology Vol No 86 (2005): 1835-1847. Print.

Barron, S. "Soil Carbon Sequestration in a Deciduous Forest Under Elevated Atmospheric CO₂ Concentrations" Poster Presentation at the Ecological Society of America Meeting. Savannah, Georgia (August 2003).

Barron, S. "Soil Carbon Sequestration in a Deciduous Forest Under Elevated Atmospheric CO₂ Concentrations" Thesis Publication - Bowdoin College. New Brunswick, Maine (2003).

Teegarden, G., Cembella, A., Capuano, C., Barron, S., & Durbin, E. "Phycotoxin accumulation in zooplankton feeding on *Alexandrium fundyense* - vector or sink?" Journal of Plankton Research. Vol No 25 (2003): 429-443. Print.

Stacy H. Minihane, Associate

Barron, S., Weber, C., Marino, R., Davidson E., Tomasky, G., & Howarth, R. "Effects of Varying Salinity on Phytoplankton Growth in a Low-Salinity Coastal Pond Under Two Nutrient Conditions" Biological Bulletin. Vol No 203 (Oct. 2002): 260-261. Print.

Weber, C., Barron, S., Marino, R., Howarth, R., Tomasky, G., & Davidson, E. "Nutrient Limitation of Phytoplankton Growth in Vineyard Sound and Oyster Pond, Falmouth, Massachusetts" Biological Bulletin. Vol No 203 (October 2002): 261-263. Print.

Barron, S. "Effects of Varying Salinity on Phytoplankton Growth in a Low-Salinity Coastal Pond Under Two Nutrient Conditions" Presentation at Scientific Symposium. Woods Hole, Massachusetts (2002).

Barron, S. "Phycotoxin accumulation in zooplankton feeding on *Alexandrium fundyense* – Vector or Sink?" Poster Presentation at Bowdoin College. New Brunswick, Maine (2000-2001).

David A. Johnson, AICP

Senior Planner

Education

M.A., Urban Affairs in Planning,
Boston University, 1987
B.A., Geography/Urban Studies,
Augustana College, 1975

Professional Licensure

American Institute of Certified Planners

Professional Affiliations

American Planning Association
Notary Public, MA

Years of Experience

Beals + Thomas: 7
Total: 38

David has more than 38 years of experience as a planner, and extensive experience with zoning, subdivision regulations, and land use planning. At Beals and Thomas, David is primarily responsible for land planning, permitting, and the initial design of commercial and residential developments. He routinely assists municipal clients with the peer review of development applications.

As a former municipal and regional planner, David successfully served municipalities in both Massachusetts and Rhode Island where he prepared various planning documents and development regulations. He has coupled that experience with work for civil engineering and land planning companies.

David's professional experience has been supplemented with volunteer services, serving as a member of the Planning Board and Zoning Board of Appeals in East Bridgewater, MA and as Delegate, Secretary and President of the Old Colony Planning Council Regional Planning Agency.

Relevant 40B Project Experience

South Village Condominium Development, Randolph, MA
Eaglebrook Village Development, Wrentham, MA
Woods at Wrentham, Wrentham, MA
Ames Shovel Works Apartments, Easton, MA
Bartlett Pond Pasture, Plymouth, MA
Village at Sawmill Woods, Plymouth, MA

Additional Project Experience

The Glen, Scituate, MA
The Seaport at Cordage, Plymouth, MA
Plymouth Rock Studios, Plymouth, MA
Nestle Down Subdivision, Plymouth, MA
Wadsworth Estates, Plymouth MA
Gunning Point VOSD, Plymouth, MA
The Meadows, Topsfield, MA
Commercial Development, Abington, MA
Kenworth Truck Facility, Wrentham, MA
CVS, Wrentham, MA
Toils End Farm, Wrentham, MA
Reverend Williams Estate, Wrentham, MA
Earth Removal Permit, Wrentham, MA
Earth Removal Permit, Millville, MA
Market Basket, Gloucester, MA
Route 1 Corridor Study, Wrentham, MA
Review of Subdivision Regulations, Plymouth, MA
Update of the Site Plan Review Bylaw, North Attleborough, MA
TRANSFLO Westborough Terminal Redevelopment, Westborough, MA
Tidmarsh Farms, Plymouth, MA
One North of Boston, Chelsea, MA

**SECTION 6.0
FEE SCHEDULE**

6.1 Schedule Of Services

We will commence services upon receipt of an executed copy of this proposal. We anticipate that the services outlined in Sections 2.4.1 through 2.4.5 can be completed within four weeks of the commencement date and receipt of the appropriate documentation. Public Hearings will be attended as scheduled.

6.2 Fees For Services

All fees will be billed on a time and materials basis in accordance with the attached fee schedule.

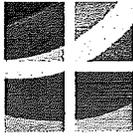
6.2.1 All fees will be billed on a time and materials basis in accordance with the attached fee schedule.

6.2.2 The following is the estimated labor budget for the services outlined in Section 2.4, Scope of Services.

2.4.1	Site Visit	\$500
2.4.2	Initial Meeting	\$1,000
2.4.3	Initial Document Review/Summary Report including Hydrological and Traffic Subconsultants	\$18,500
2.4.4	Meeting Preparation and Public Hearing Presentations	\$1,500
2.4.5	Supplemental Review	\$2,500
Total Estimated Labor Budget		\$24,000

6.2.3 Reimbursable expenses of approximately 10 percent of the labor budget should be anticipated.

6.2.4 Additional Services will be provided for additional mutually satisfactory compensation.



BEALS + THOMAS

BEALS AND THOMAS, INC.
Reservoir Corporate Center
144 Turnpike Road
Southborough, MA 01772-2104

T 508.366.0560
F 508.366.4391
www.bealsandthomas.com
Regional Office: Plymouth, MA

FEE SCHEDULE

Effective June 1, 2014

Fees for Beals and Thomas, Inc. are based on the following time charges plus expense schedule. Invoices are due upon receipt. Beals and Thomas, Inc. owns all right, title and ownership interest in any and all plans, maps, charts, diagrams, models, specifications, studies, consultations, technical drawings, electronic files, and any other work product of Beals and Thomas, Inc. until full and final payment for services rendered and expenses incurred is received. For all accounts remaining unpaid by the first of the month following the invoice date, Beals and Thomas, Inc. reserves the right to add a late charge of 1.50 percent per month or 18 percent per annum to each overdue invoice. This fee schedule may be revised periodically.

Time Charges

<u>Rate Category</u>	<u>Hourly Rate</u>
Senior Professional Staff I	\$170.00
Senior Professional Staff II	\$145.00
Senior Professional Staff III	\$125.00
Senior Professional Staff IV	\$110.00
Professional Staff I	\$95.00
Professional Staff II	\$85.00
Professional Staff III	\$75.00
Administrative/Technical Staff I	\$60.00
Administrative/Technical Staff II	\$50.00

Expert testimony in support of litigation and court appearances will be billed at a rate of \$200.00 per hour.

Projects requiring OSHA trained personnel will be billed with a supplemental rate of \$25.00 per hour in addition to the standard rate category.

Reimbursable expenses shall be billed at the cost plus an accounting service fee of 10 percent, unless arranged otherwise. Reimbursable expenses include transportation, delivery, printing costs, presentation materials, computer and field equipment, permit application fees, soil and water testing, police detail, special consultants, or subcontractors and similar costs directly applicable to the individual project.

Appendix A
Project Sheets

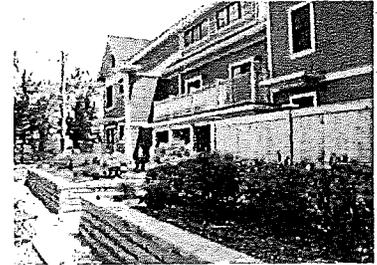
Representative Projects

Affordable Housing

Beals and Thomas assists municipalities, developers, and non-profit organizations through the often challenging Chapter 40B site selection process, providing them with a thorough knowledge of the regulatory environment and successful strategies to meet their project goals.

Alewife Brook Condominiums, Cambridge, MA

Contributed to the design of eight residential units utilizing an existing foundation, despite the challenge of working with a mere 0.19-acre space. Issued construction documents for bidding purposes and provided construction administration services throughout the building process.



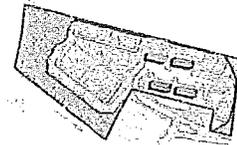
Alewife Brook Condominiums

Ames Shovel Shop Apartments, Easton, MA

Evaluated the property to further the development plans of Shovel Shop Square for 144 housing units. Professional services supported the filing of a Chapter 40B Comprehensive Permit for the majority of the property. Identified potential locations for utility systems to accommodate the housing.

Cutler Heights, Holliston, MA

Determined feasibility of a 30-unit, 66-bedroom multi-family housing development. Conducted utility research and development analysis, performed a soils investigation to determine conditions for a subsurface sewage system to assist in the preparation of a sewage disposal system plan, and monitored roadway issues to guarantee safe traffic conditions. Site design plans were prepared and submitted in conjunction with the Comprehensive Permit application to advance the Holliston Housing Authority project.



Cutler School Property

Scouting Way Apartments, Cambridge, MA

Provided professional services to assist with civil design, landscape design, and permitting aspects of the 13-unit affordable housing project. The apartments stand as a model for sustainable housing initiatives, as they make use of energy efficient lighting, appliances, heating, and ventilation.



Scouting Way Apartments

Affordable Senior Housing, Ashland, MA

Performed a feasibility study to develop 26 acres for affordable senior housing. Analyzed physical characteristics of the site, including soils, topography, wetlands, abutting land uses and access, in order to create a conceptual site plan and a comprehensive list of potential permits.

Reserve on Salisbury, Holden, MA

Providing site planning, engineering design, and permitting services associated with the development of a 246-unit 40B housing complex. Site planning and design services involve refining a conceptual site plan to respond to regulatory constraints, soil and subsurface conditions, and layout modifications to enhance the overall quality of the neighborhood context of the project. As a result of the identification of the numerous vernal pools on the property, a re-design of the development and studies to resolve the critical issues associated the drainage and sewer systems were necessary.

Municipal Review Services

Beals and Thomas has assisted many cities and towns in Massachusetts, as well as citizen groups, public agencies, and private development clients, with the review and evaluation of development proposals, Chapter 40B Comprehensive Permit developments, roadway improvement projects, and revisions to local wetland, planning and zoning regulations. Beals and Thomas regularly provides construction administration assistance and support with the development of community design guidelines and master planning. Working throughout Massachusetts, in a variety of municipalities and for a variety of boards, commissions, and other public interest organizations has provided Beals and Thomas with invaluable experience and insight into the local and state permitting process.

Beals and Thomas has completed review services on behalf of the following municipalities:

Abington Planning Board
Acton Planning Board
Amesbury Planning Board & Conservation Commission
Boston Public Facilities Department
Carlisle Zoning Board of Appeals
Clinton Planning Board
Foxborough Zoning Board of Appeals
Framingham Planning Board
Gardner Housing Authority
Gloucester Planning Department
Grafton Planning Board
Hanover Planning Department
Marlborough City Engineers Office
Mattapoisett Planning Board
Milton Housing Authority
Nantucket Conservation Commission
North Attleborough Planning Board & Conservation Commission
Norton Planning Board
Plymouth Department of Planning & Development & Conservation Commission
Quincy Planning and Community Development
Randolph Zoning Board of Appeals
Raynham Planning Board
Southborough Housing Authority
Sudbury Planning Board
Topsfield Planning Board, Conservation Commission & Board of Health
Waltham Planning Department
Wellesley Natural Resources Commission
West Springfield Planning Board
Westwood Planning Board
Wrentham Planning Board, Zoning Board of Appeals & Conservation Commission



Commercial Developments: Wrentham Premium Outlets



Community Improvements: The Commons

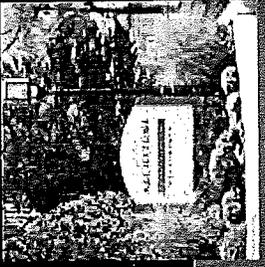
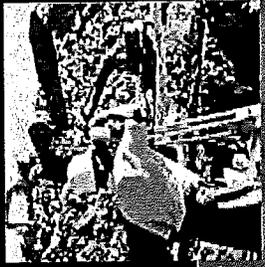
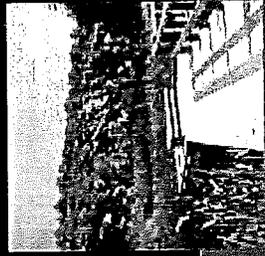
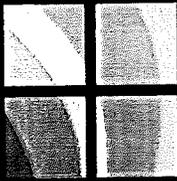


Residential Developments

Appendix B
Statement of Qualifications



BEALS + THOMAS



Civil Engineers • Landscape Architects • Land Surveyors • Planners • Wetland Scientists

Statement of Qualifications

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Introduction

Project Types

Office/Corporate
Educational
Open Space & Conservation
Parks & Recreation
Golf Courses & Country Clubs
Healthcare
Residential
Industrial
Energy
Commercial/Retail
Municipal Planning, Facilities & Peer Reviews
Religious Facilities

Client Types

Architectural/Engineering Firms
Attorneys
Financial Institutions
Commercial/Retail Businesses
Manufacturers
Conservation/Non-profit Organizations
Government Agencies
Real Estate Developers
Contractors
Utility Companies
Private Entities

Founded in 1984, Beals and Thomas, Inc. is a multidisciplinary consulting firm providing professional services in support of the development and conservation of land and water resources throughout New England.

We offer creative and solution-oriented land planning and design services that are balanced with an environmental ethic. Our approach ensures comprehensive management and attention to detail by combining the experience of civil engineers, landscape architects, environmental specialists, planners and land surveyors. This is the foundation of our success and reputation.

Beals and Thomas provides a professional environment that achieves successful results for our clients, shareholders and employees alike. Our reputation for dependable, thorough service cultivates solid business relationships and enhances our broad range of experience with public and private sectors.

Integrated design teams provide the skills and management necessary to address your needs in a comprehensive manner. Our multidisciplinary design group structure affords team members exposure to the abilities of each discipline and the opportunity to provide complementary skills. This cooperative approach not only builds upon the proficiency of our professional staff but also achieves responsive and cost-effective solutions for our clients.

Our Statement of Qualifications provides an overview of services, project experience, and the capabilities of our professional staff. We encourage you to contact us for more in-depth information about Beals and Thomas and how we can help you achieve your project goals.



Civil Engineering

Analysis & Capacity Studies

- Soil Evaluations
- Utility Infrastructure
 - Water Systems
- Subsurface Sewage Disposal
- Sewer Systems & Pump Stations
- Hydrology & Drainage Systems
- Stormwater Management Design
- Grading Studies & Earthwork Analysis
 - Site Distance Analysis
- Roadway & Intersection Capacity
- Hydrogeologic Modeling

Engineering Design Development

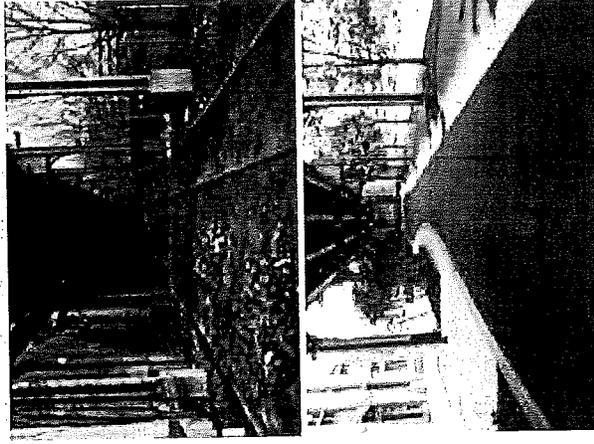
- Stormwater Management Planning
- Low Impact Development Techniques
- Roadway & Pavement Design
 - Intersection Design
 - Retaining Wall Design
- Infiltrative Drainage Systems
- Sewage Pump Stations

Representative Products

- Bedrock & Soils Maps
- Utility Plans & Profiles
- Roadway & Intersection Plans
- Grading & Drainage Plans
- Bid & Construction Documents
- Technical Specifications
- Construction Observation & Administration

Thoughtful site design and cost-effective civil engineering create the framework for any successful development. Our engineers apply effective and practical design solutions at the onset, ensuring that engineering solutions are integrated with all aspects of the project. We provide creative problem solving, conceptual and final design, computer-aided design and drafting, calculations, project management services and plan processing through agency approvals.

We practice the traditional aspects of civil engineering including grading, drainage, utility design, site layout, water supply and distribution system design, and wastewater collection and disposal system design. During the preliminary phase of a project, our engineers analyze various alternative plans to determine feasibility and cost efficiency. State-of-the-art computer technology is used to facilitate timeliness in the completion of all our projects.



Before & after conditions of the MBTA Green Line viaduct at Archstone North Point - Cambridge, MA



BEALS + THOMAS

Environmental

Data Collection & Analysis

- Wetland Mapping
- ASTM Environmental Site Assessments
- Water Quality Sampling Program
 - Groundwater Flow Models
- Massachusetts Contingency Plan
- Mobile Source Air Quality Analysis
- Botanical/Wildlife Assessments
- Natural Resource Inventories
- Greenhouse Gas Modeling

Design

- Wetland Restoration & Replication
- Stormwater Best Management Systems
- Stormwater Pollution Prevention Plans
- Remediation Measures for Site Contamination
 - Aquifer Protection Criteria
- Land & Water Management Plans
- Solid Waste Landfills Remediation
- Erosion Control & Bioengineering of Slopes
 - Soil Conservation
- Conservation Restriction Planning

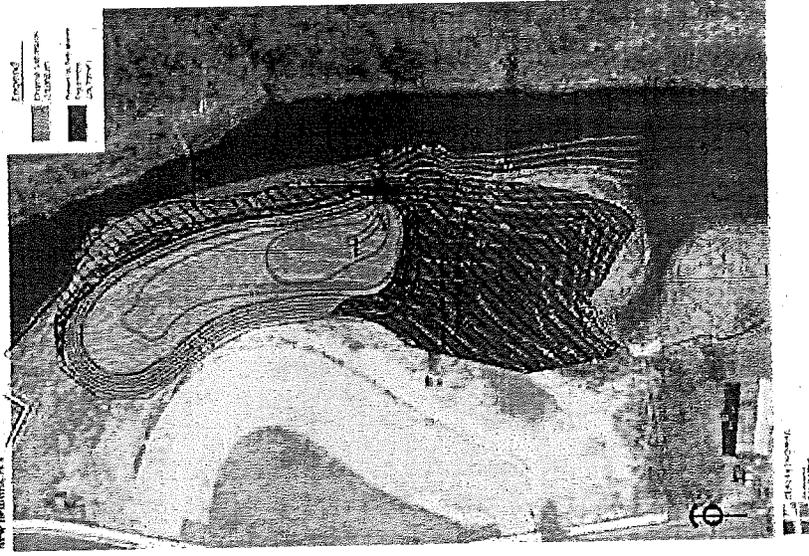
Local, State, & Federal Permitting

- Subsurface Sewage Disposal Permits
 - Wetlands Permits
- Water Quality Certifications
- Groundwater & Surface Water Discharge Permits
 - Waterways Licenses
- Environmental Impact Reports
 - NPDES Plans
- Army Corps of Engineers Permits
 - EPA Permits & Certifications
- Water Management Act Permits

Increasingly stringent environmental legislation requires integrated professional services that balance client goals with environmental considerations. Our staff has extensive knowledge of environmental regulations, and maintains mutually cooperative working relationships with regulatory agency professionals throughout our practice areas.

Our environmental services staff provides detailed site analysis and system designs to address air, soil, and water quality issues. Our record of successfully permitted and constructed projects reflects the dedication and versatility of our staff. In recognition of our innovative approach and environmental sensitivity during the land planning and design processes, Beals and Thomas was awarded the Small Business Friend of the Environment Award by the Environmental Federation of New England and The Nicholas Humber Environmental-Energy Award for Outstanding Collaboration from the Environmental Business Council of New England.

2011 Massachusetts Department of Environmental Protection
New Bedford, MA



Salt marsh design at River's End Park, New Bedford, MA

Landscape Architecture

Site Analysis & Project Programming

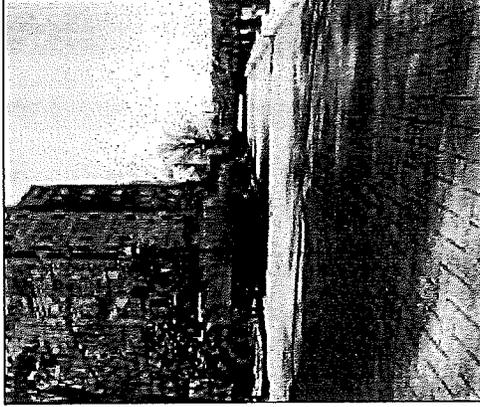
- Land Use Regulation Analysis
 - Site Analysis
 - Viewshed Studies
- Programming Evaluation & Testing
- Natural Resource Inventory & Analysis
 - Vegetation Inventories
 - Solar & Shadow Analysis

Design Development

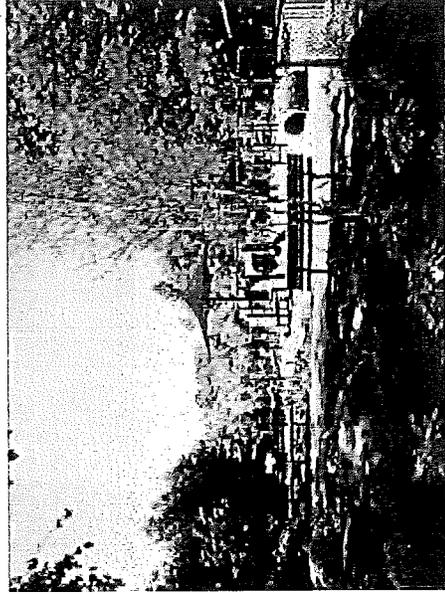
- Master Planning
- ADA Compliance
- Feasibility Studies
- Circulation Design
- Site Improvement Plans
- Illustrative Presentation Plans
- Materials Selection & Layout
- Screening & Buffer Design
- Site Grading Design
- Site Lighting Design
- Planting Design
- Site Details

The visual quality of a project can evoke strong reactions from potential investors, tenants, customers and regulatory officials. For a project to be successful, it must meet economic goals and achieve the functional and aesthetic goals of the client. Our landscape architects are rational and creative as they balance aesthetics, design efficiency, and construction costs to produce projects that are economical, marketable and visually pleasing.

With an advanced understanding of site design and an approach that encourages collaboration with civil engineers, surveyors, and environmental professionals, we design projects to be compatible with the existing topography, landscape, and regulatory environment. We incorporate critical details to advance project team goals and ensure a cohesive design. The finished product demonstrates our commitment to the landscape architectural process and assures our clients' satisfaction and success.



Cronin's Landing Riverwalk



Goodwill Park - Holliston, MA



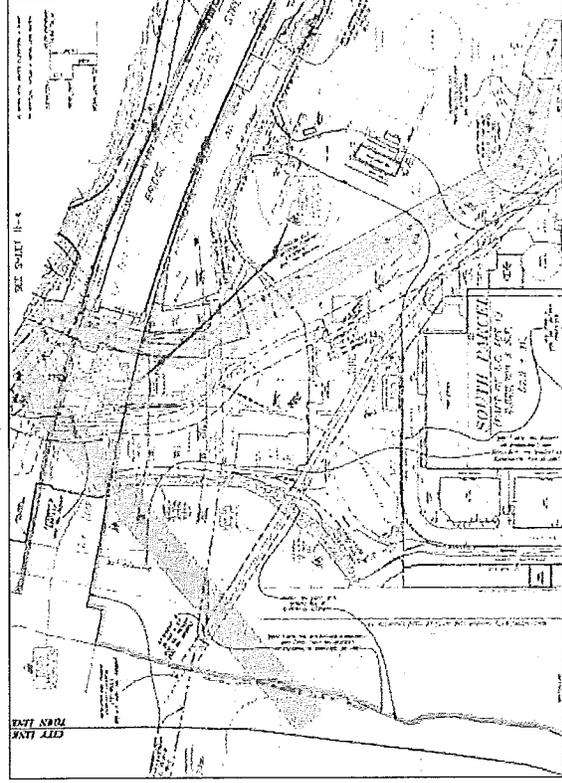
BEALS + THOMAS

Land Surveying

- Architectural Detail Surveys
- Design Base Plans
- Utility Surveys
 - Lot Staking
 - Plot Plans
- Building Permit Plans
- Settlement Surveys
- Specialty Surveys
 - As-built Surveys
- Aerial & Topographic Surveys
- Hydrographic Surveys
- Land Records Compilation & Storage
 - Boundary Surveys
 - Land Court Surveys
- Title Insurance Surveys
 - Zoning Studies
 - License Studies
- Metes & Bounds Descriptions
- Easement Plans & Surveys
- MCP Activity & Use Limitation Surveys
 - Right-of-Way Surveys
 - Construction Layout
- GIS Services
- GPS Surveys
- Baseline Control Surveys

Accurate collection and presentation of survey data is critical to a project's development and success. We understand that efficient data gathering, coupled with effective communication, is crucial when working with clients, design professionals, and permitting authorities to complete project goals on time and within budget.

Experienced use of technologically advanced tools enables our survey staff to handle a wide variety of assignments. Projects of varying size and scope are completed in less time and with increased precision because of our proficiency with state-of-the-art methods. Information is presented in clear and understandable formats through the use of color technology and unique data displays.



Color-coded survey plan for better interpretation of data

Planning

Economic & Industrial Development

- Employment Generation
- Revitalization of Declining Commercial Areas
- Tax-Base Analysis
- Zone Changes

Community Planning

- Master Planning
- Build-out Analysis
- Consensus Building
- Public Participation
- Open Space & Recreation Plan
- Visioning & Goal Setting
- Land Conservation Strategies

Community Impact Analysis

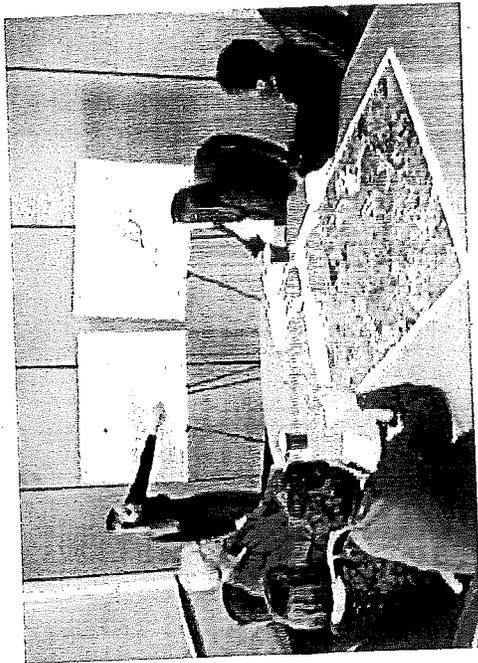
- Municipal Services/School Impacts
- Fiscal Analysis
- Project Feasibility Analysis
- Housing Inventories & Needs Assessment

Land Use Regulations & Permitting

- Permit/Regulatory Analysis
- Regulatory Revisions
- Plan Submission Reviews
- Local Zoning, Subdivision, General Bylaws
- State MEPA, Chapter 91, Housing, Wetlands
- Federal NEPA, Historic, Army Corps Water Quality Certification

Managed community growth and economic revitalization, in unison with the preservation of open space and community character, is the mission of the planning staff. We offer experience and a broad viewpoint when working within a community to find the answers to land use, economic development, housing, and growth management issues.

We provide innovative strategies, problem solving, and flexibility during the planning and permitting phases of a project to achieve project goals in concert with the requirements of governing authorities. We act as a liaison between our clients, communities and regulatory officials to better facilitate the development and permitting processes, and maximize the social, physical, and economic benefits of a community's natural and built environments.



Sustainable Design

Sustainable Site Design
 Low Impact Development
 Water Efficient Design
 Renewable Energy Design & Modeling



Sustainable design is a comprehensive approach to building construction and renovation, while minimizing the impact on public health and the environment. Sustainable developments aim to reduce environmental impacts not only during construction, but also during renovation and demolition. Ideally, green building serves as a means for providing long-term, economically sustainable solutions that preserve our natural resources and enhance our quality of life.

Beals and Thomas continues its role as a leader in environmentally responsible design by taking a lead in green design. We are committed to finding creative strategies that improve our environment and protect public health efficiently and cost-effectively.

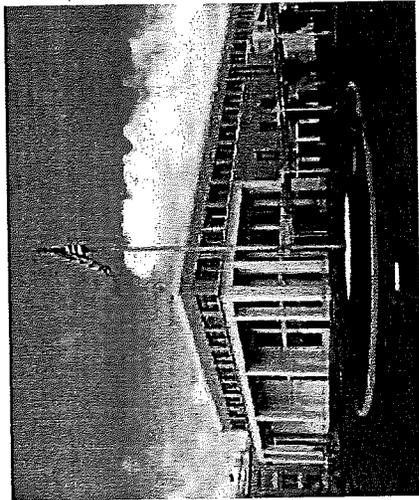
Leadership in Energy and Environmental Design (LEED)

The LEED Green Building Rating System is a voluntary, consensus-based national standard for developing high-performance, sustainable buildings. Based on well-founded scientific standards, LEED emphasizes state-of-the-art strategies for sustainable site development, water savings, energy efficiency, materials selection and indoor environmental quality.

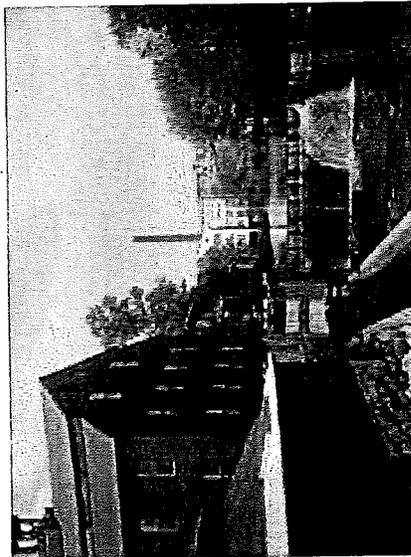
LEED Accredited Professionals are experienced building industry practitioners who have demonstrated their knowledge and understanding of green building practices and principles, and familiarity with LEED requirements, resources, and processes.

Representative LEED Projects:

- The Home for Little Wanderers Longview Farm, Walpole, MA
- Fay School, Southborough, MA
- Cambridge City Hall Annex, Cambridge, MA
- Doyle Conservation Center, Leominster, MA
- Starwood element Hotel, Lexington, MA
- ISO New England, Holyoke, MA
- Whitin Mill Redevelopment, Whitinsville, MA
- The MITRE Center, Bedford, MA

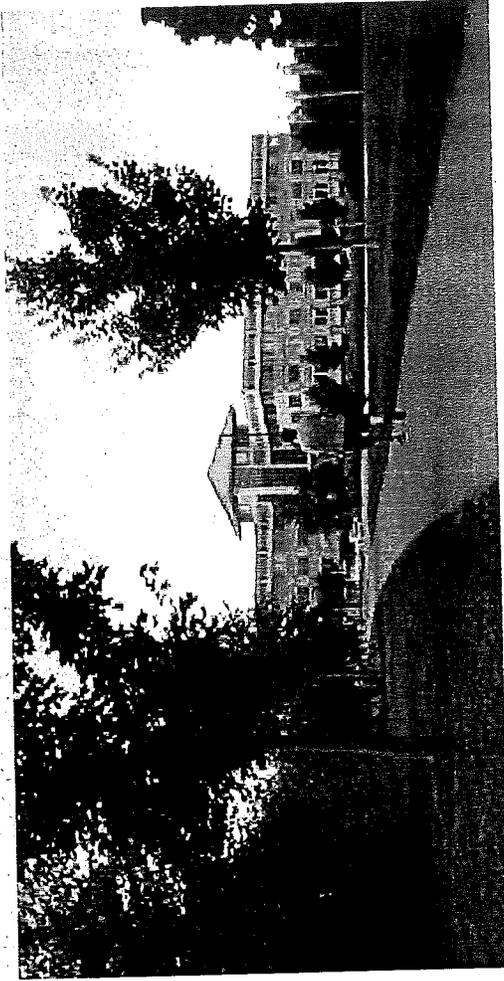


The MITRE Center (LEED Silver Certified) - Bedford, MA

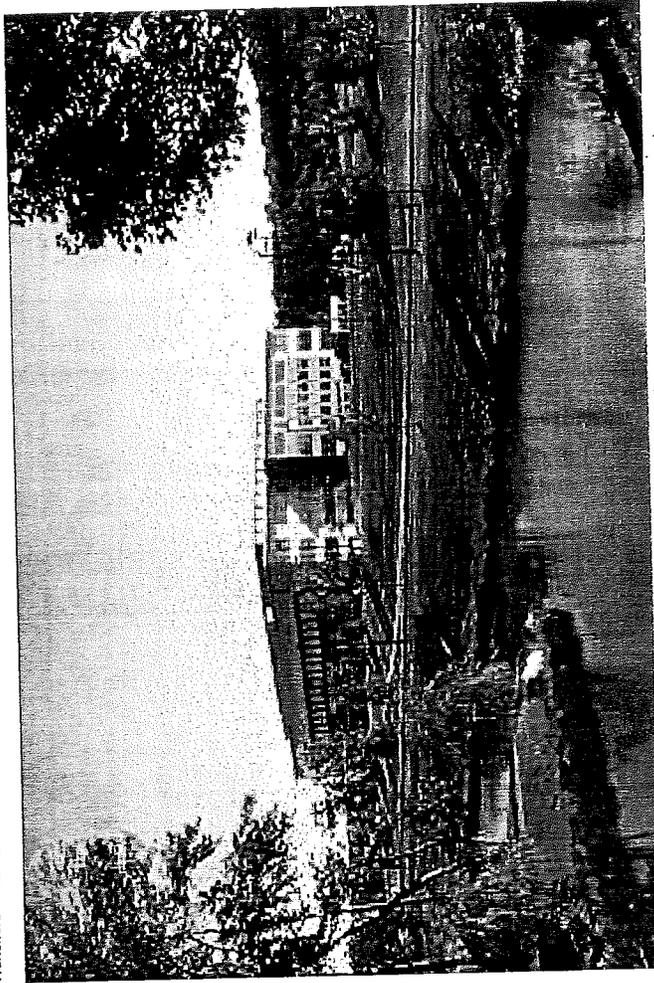


Alternatives, Inc. (LEED Gold Certified) - Whitinsville, MA

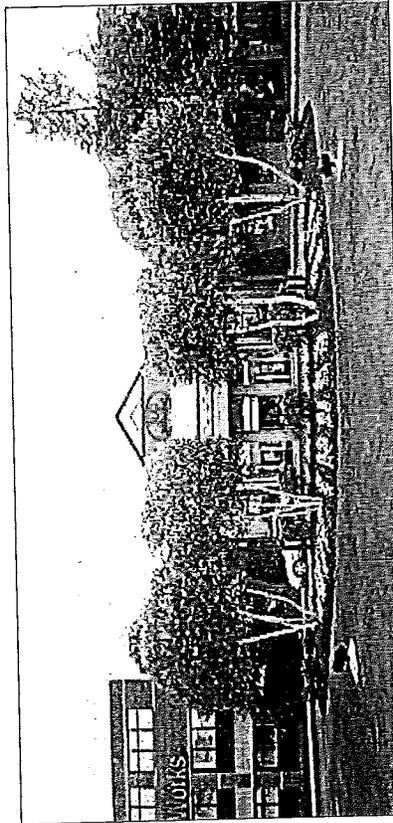
project portfolio



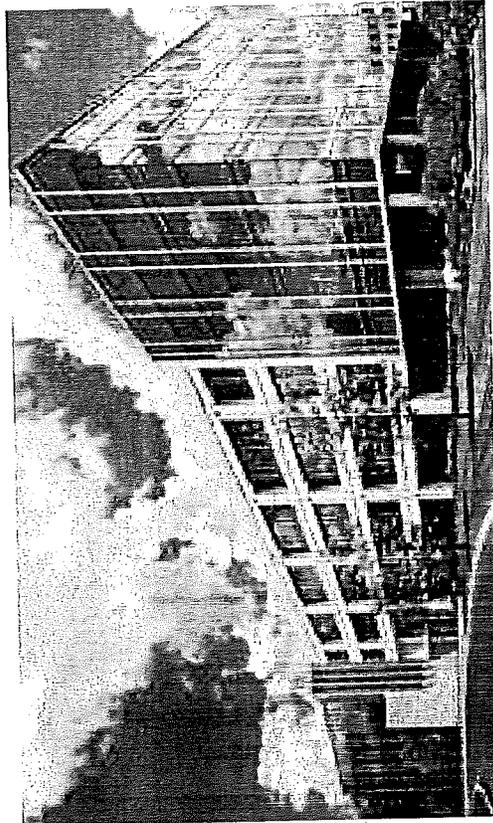
Wakefield Office Park



Cisco Systems



Concord Meadows Corporate Center



Weston Corporate Center

REPRESENTATIVE PROJECTS

Weston Corporate Center
Weston, MA

Concord Meadows Corporate Center
Concord, MA

i-Park
Waltham, MA

Cisco Systems, Inc.
Boxborough, MA

Tyngsborough Business Park
Tyngsborough, MA

National Grid Headquarters
Westborough, MA

EMC Corporation
Hopkinton/Southborough/Westborough, MA

Worcester Telegram & Gazette
Millbury, MA

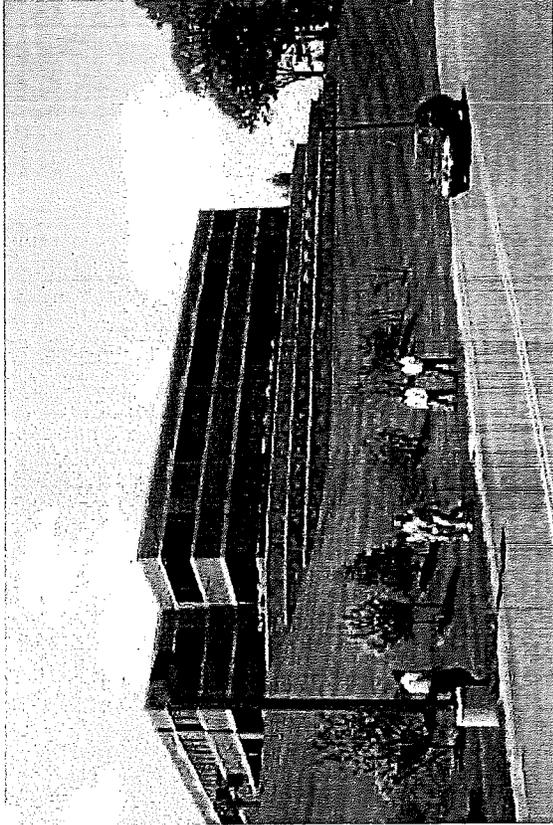
Lantheus Medical Imaging
Billerica, MA

Westborough Office Park
Westborough, MA

Wakefield Office Park
Wakefield, MA

The MITRE Corporation
Bedford, MA

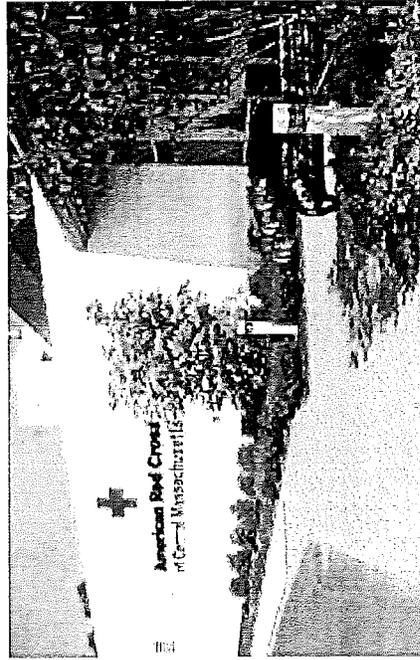
Worcester Corporate Center
Worcester/West Boylston, MA



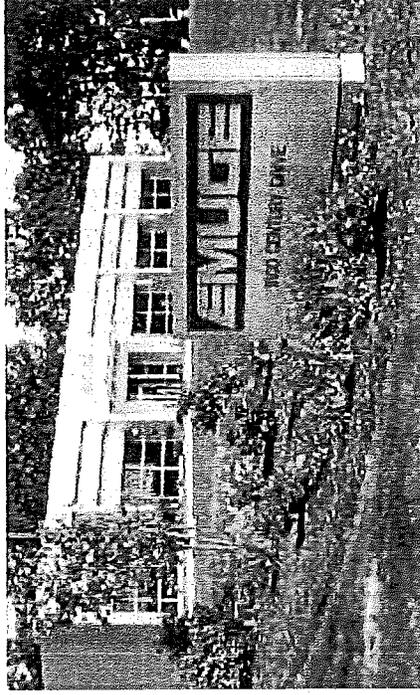
EMC Corporation



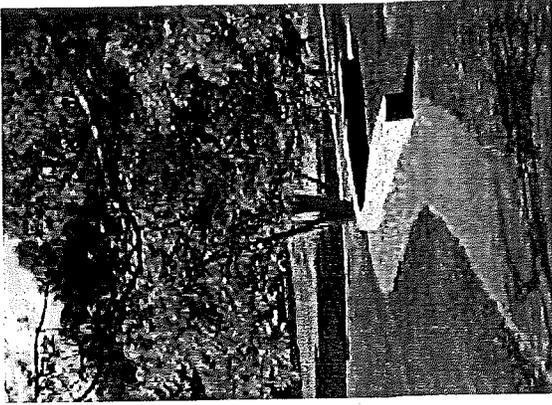
The MITRE Corporation



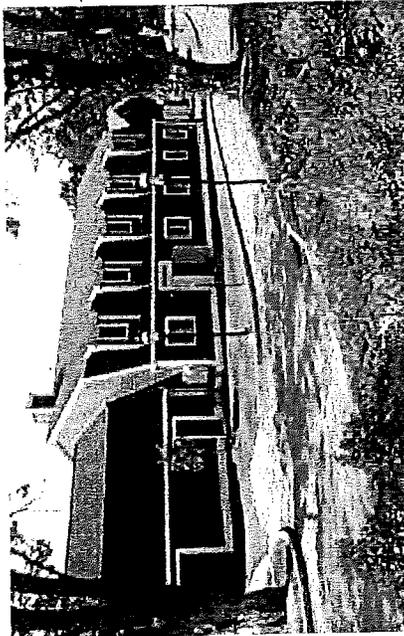
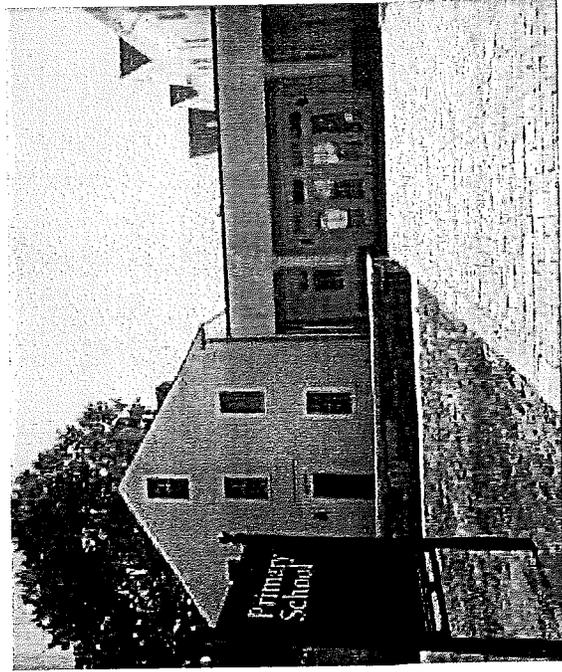
American Red Cross and Emuge at Worcester Corporate Center



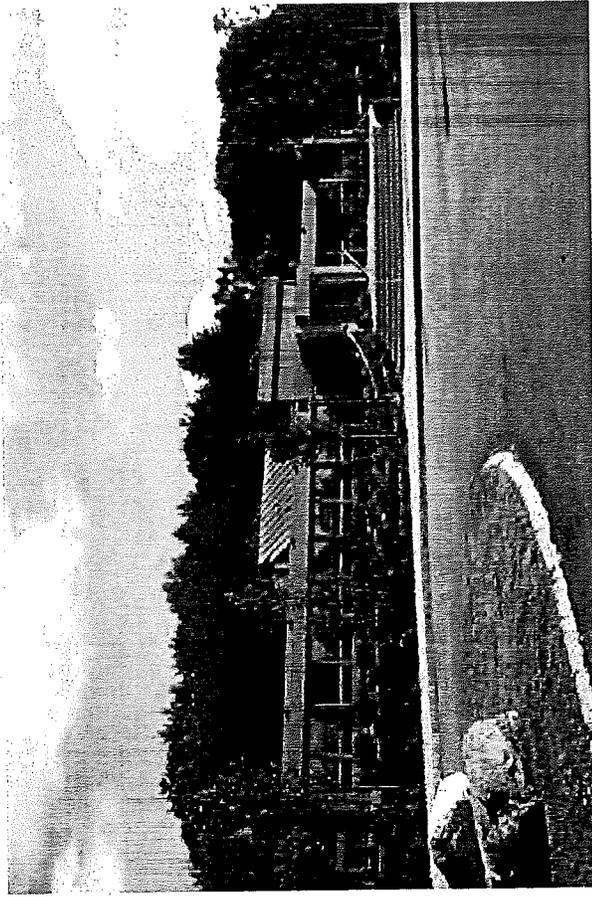
Office Buildings/Parks



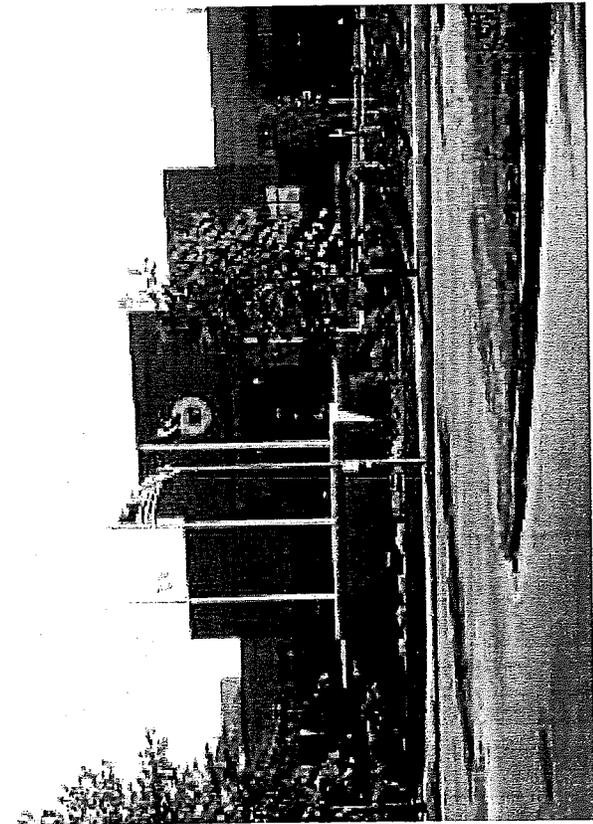
Carmelite Sisters Monastery



Facilities/Maintenance Building and Primary School at the Fay School



Kerem Shalom Synagogue



Revere Police Headquarters



REPRESENTATIVE PROJECTS

Fay School
Southborough, MA

Society of St. John the Evangelist Monastery
& Guest House
Cambridge, MA

Grace Chapel
Wilmington, MA

Abby Kelley Foster Charter Public High School
Worcester, MA

The Home for Little Wanderers Longview Farm
Walpole, MA

Doyle Conservation Center
Leominster, MA

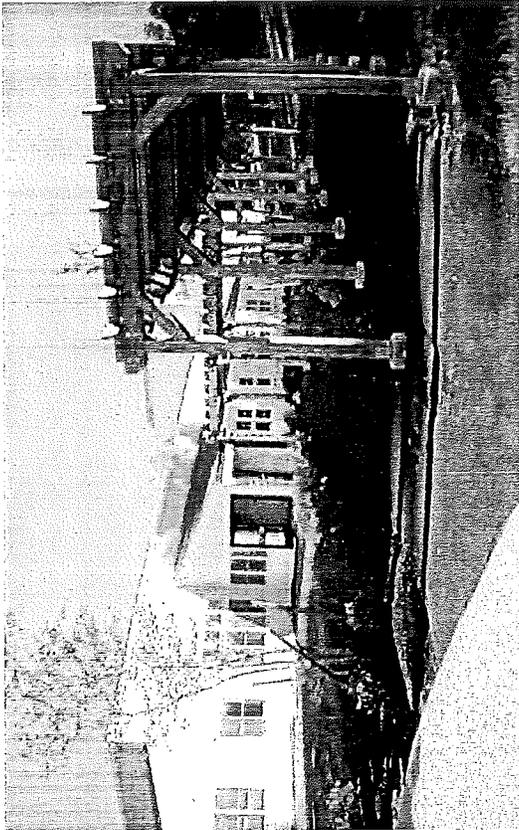
Kerem Shalom Synagogue
Concord, MA

Carmelite Sisters Monastery
Danvers, MA

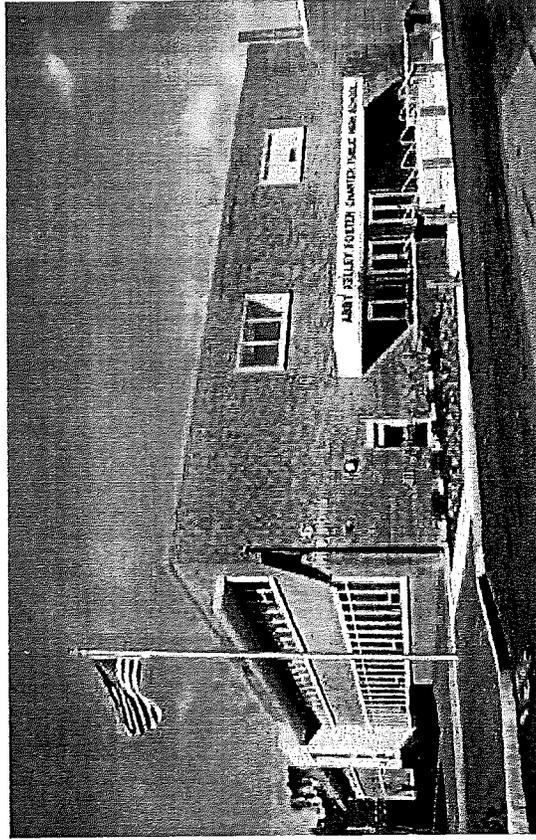
Quinsigamond Community College
Worcester, MA

Old Quincy House at Harvard University
Cambridge, MA

Veteran's Training & Rehabilitation Center
Gardner, MA

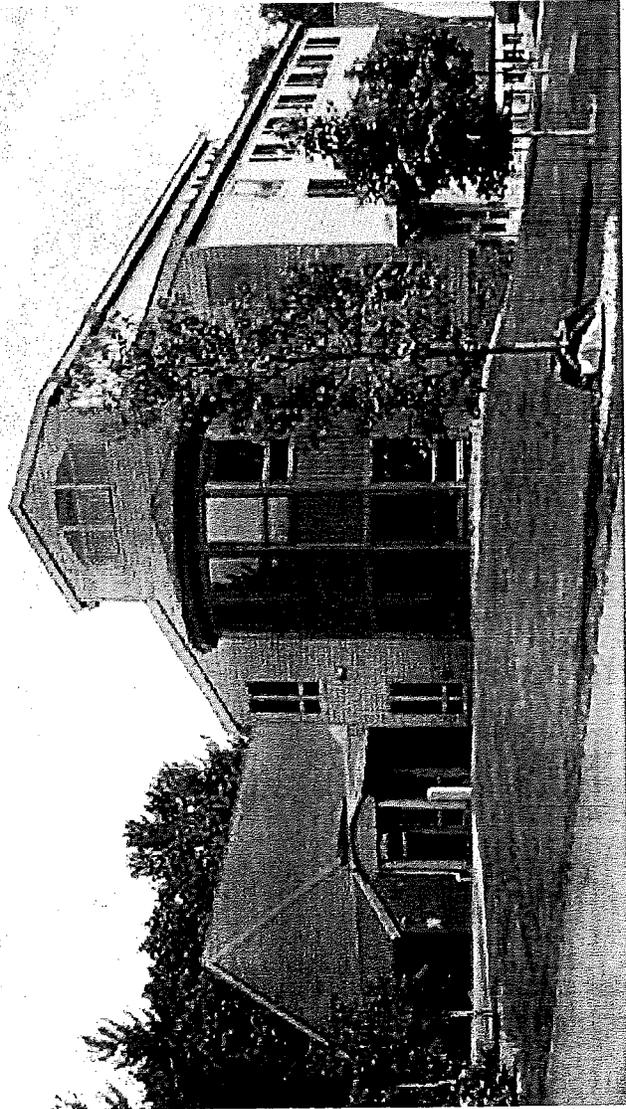


School Entrance at The Home for Little Wanderers Longview Farm



Abby Kelley Foster Charter Public High School

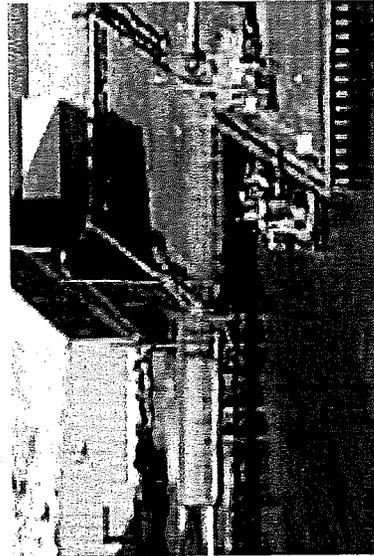
Institutional



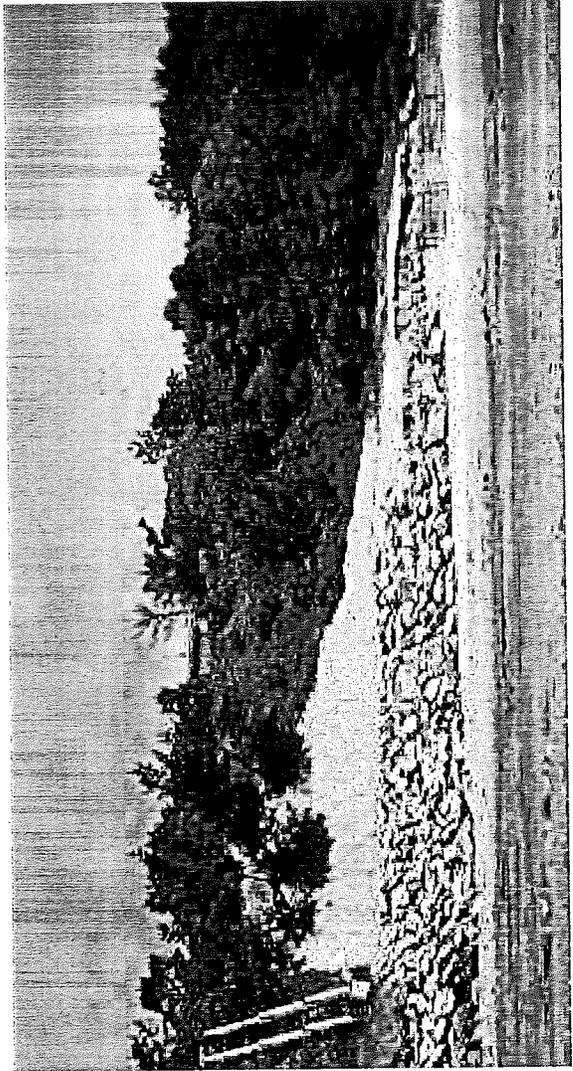
Doyle Conservation Center



Coastal Bank Stabilization, Cape Cod



Boat Slip Remediation & Mitigation in New Bedford Harbor



REPRESENTATIVE PROJECTS

Coastal Bank Stabilization
Wellfleet, MA

Doyle Conservation Center
Leominster, MA

World's End Reservation
Hingham, MA

MGP Site Boat Slip Remediation & Mitigation
New Bedford, MA

Coolidge Point
Manchester-by-the-Sea, MA

River Run
Wareham/Plymouth, MA

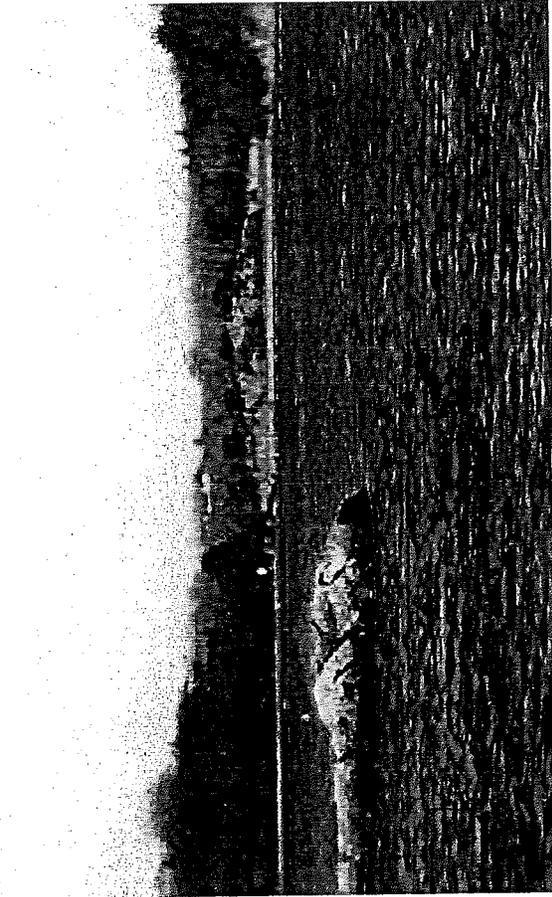
Hillview Wetland Crossing
Winchendon, MA

DCR Land Planning Study
Dighton, MA

The Trustees of Reservations
Various Massachusetts Locations

Goose Neck Cove Estuary & Salt Marsh Restoration
Newport, RI

Merrimack River Bank Stabilization
Haverhill, MA



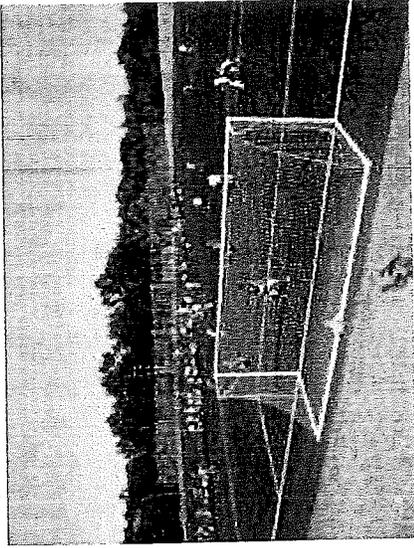
Goose Neck Cove Estuary



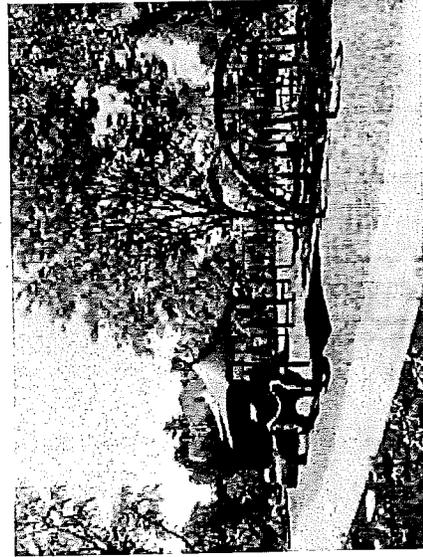
World's End Reservation Damde Meadows Restoration



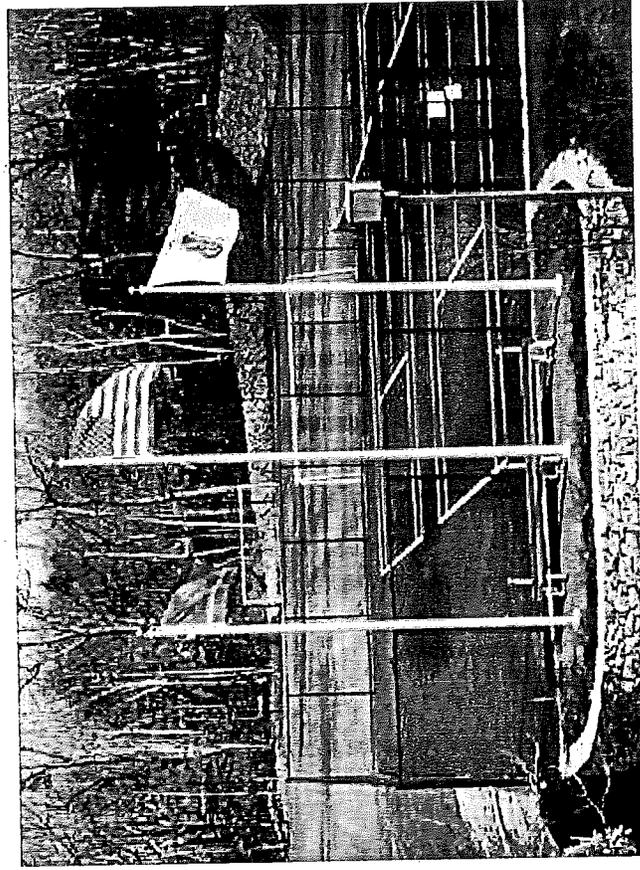
Conservation



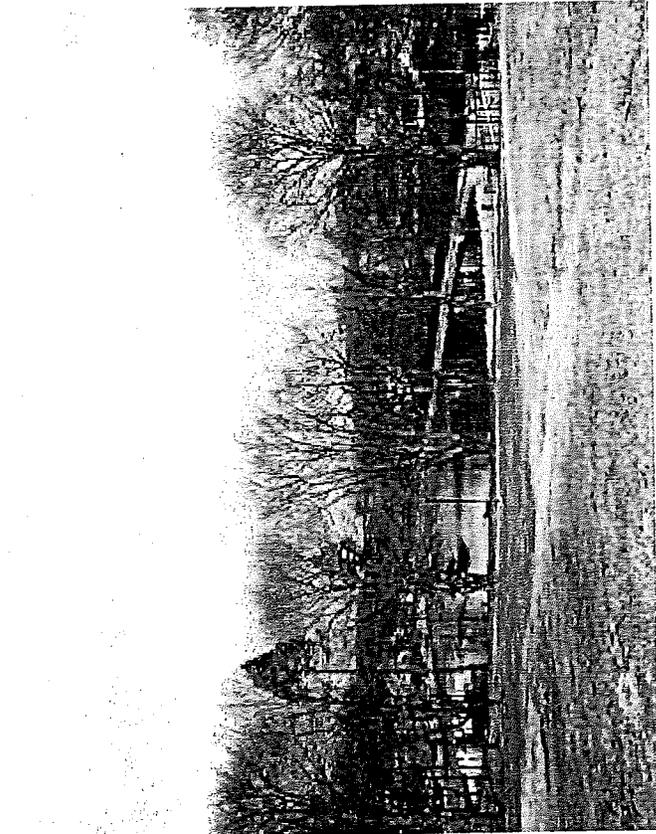
Holliston Soccer Fields



Goodwill Park



Massachusetts International Academy Sports Complex



University Park

REPRESENTATIVE PROJECTS

University Park
Worcester, MA

Goodwill Park
Holliston, MA

Beech Tree Park at Village Hill Northampton
Northampton, MA

Elm Park
Worcester, MA

Houghton's Pond Ball Fields
Milton, MA

Fay School Athletic Fields
Southborough, MA

Massachusetts International Academy Sports Complex
Marlborough, MA

Holliston Soccer Fields
Holliston, MA

Lovell's Grove & King's Cove Park
Weymouth/Quincy, MA

Brae Burn Country Club
Newton, MA

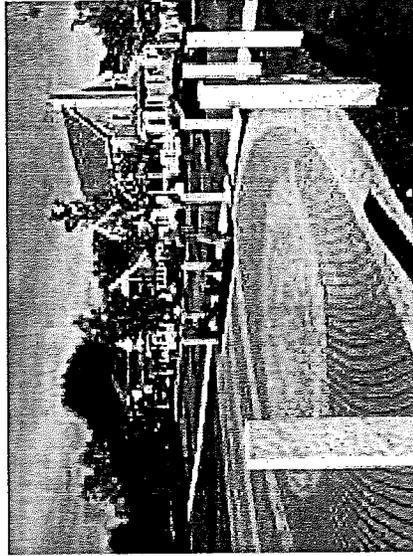
DCR Lower Falls Trail Segment
Newton/Wellesley, MA

Needham Master Trails Plan
Needham, MA

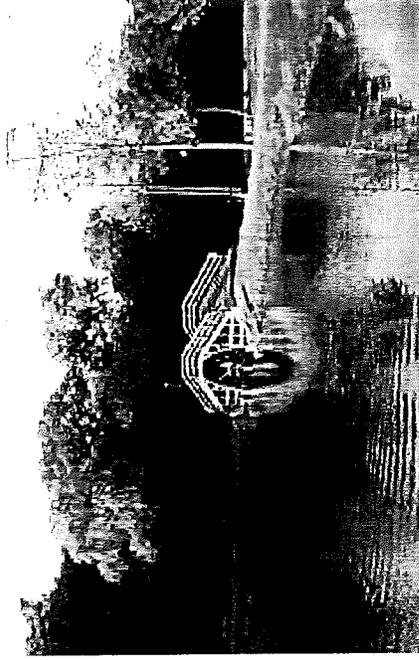
Franklin Country Club
Franklin, MA



Fay School Athletic Fields

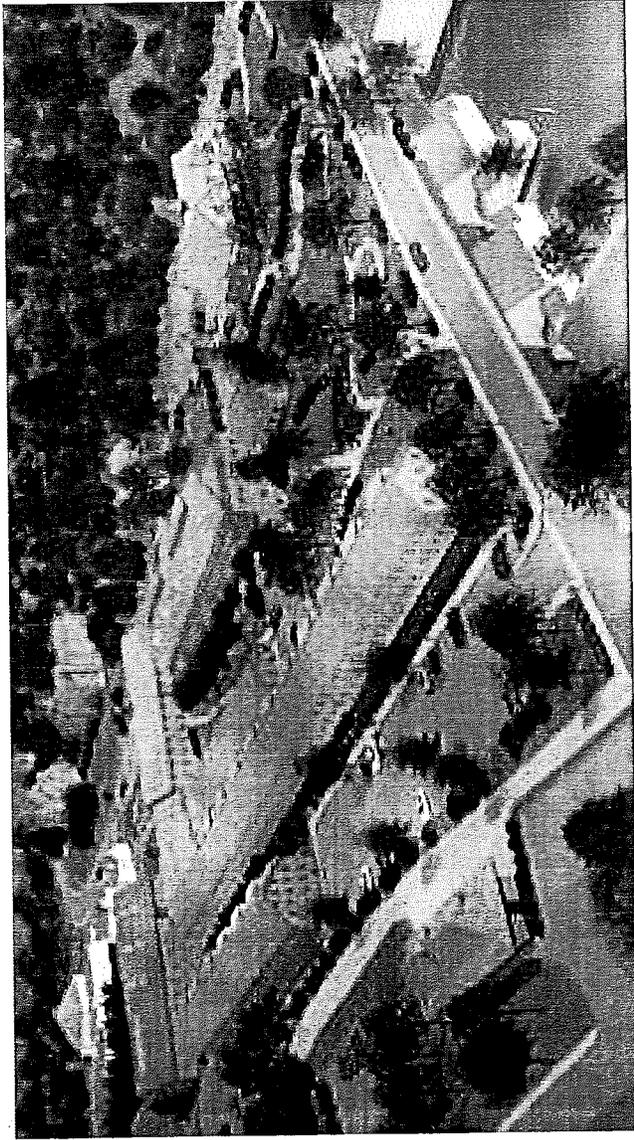


Beech Tree Park at Village Hill Northampton

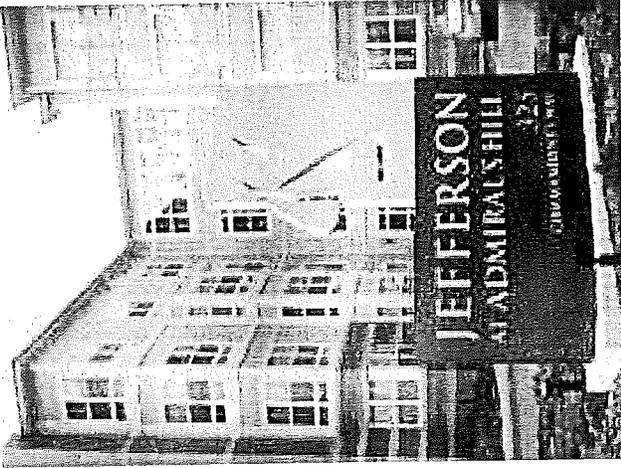


Elm Park

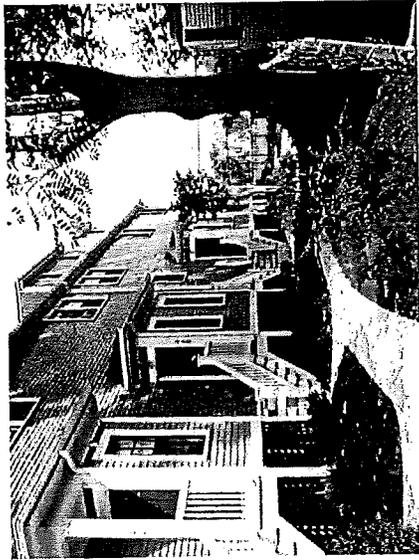
Recreation



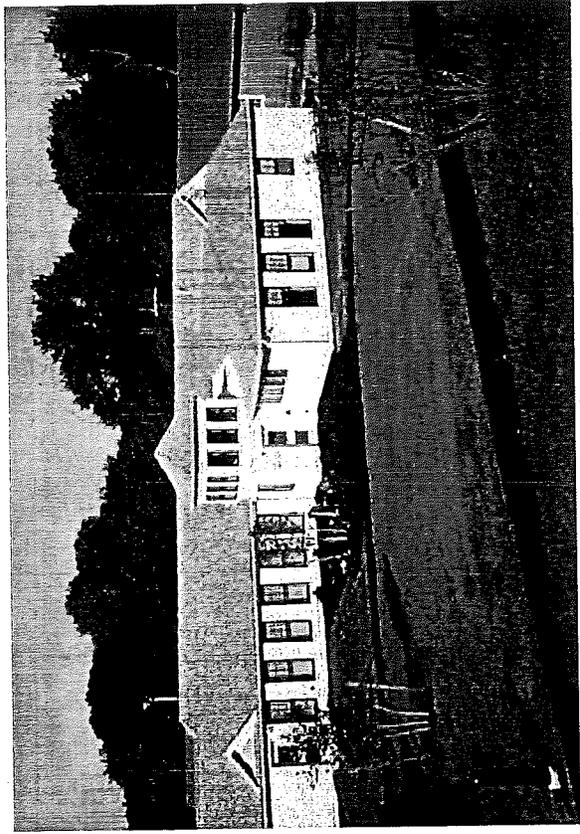
Stiovel Shop Apartments



Jefferson at Admiral's Hill



Scouring Way Apartments

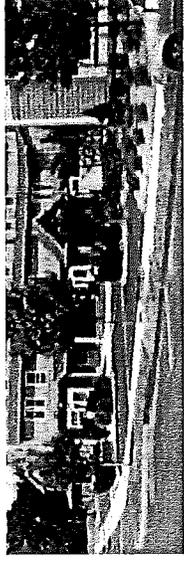


Residence Building at the Home for Little Wanderers Longview Farm

ATINGTON, MA
 Village Hill Northampton
 Northampton, MA
 Winterberry Hollow
 Holden, MA
 The Home for Little Wanderers Longview Farm
 Walpole, MA



NorthPoint



Village Hill Northampton

Scouting Way Apartments
 Cambridge, MA
 Hearth Ridge Manor
 Hopkinton, MA
 Mount Hope Farm Estates
 North Attleborough, MA
 Eaton Place
 Franklin, MA
 Maple Springs
 Wareham, MA
 Legacy Farms
 Hopkinton, MA
 Jefferson at Admiral's Hill
 Chelsea, MA
 Tihonet Pond
 Wareham, MA



Eaton Place

Residential

REPRESENTATIVE PROJECTS

Emerson Hospital
Concord, MA

Lawrence General Hospital
Lawrence, MA

Merrimack Valley Hospice
Haverhill, MA

Brooksbys Village
Peabody, MA

Taunton State Hospital
Taunton, MA

University of Massachusetts Medical
Worcester Foundation Campus
Shrewsbury, MA

Cambridge Health Alliance/Malden Medical Center
Malden, MA

American Red Cross Regional Headquarters
West Boylston, MA

Lantheus Medical Imaging
Billerica, MA

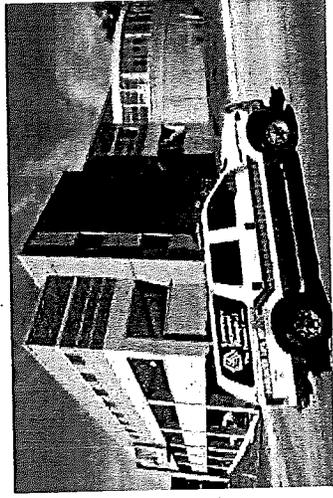
Center for Specialty Care, Bone and Joint Center
Concord, MA

Garcia Dental
Raynham, MA

Brighton Marine Healthcare Center
Brighton, MA



Emerson Hospital



Lawrence General Hospital



Emerson Hospital Life Flight Helipad



American Red Cross of Central Massachusetts

Healthcare



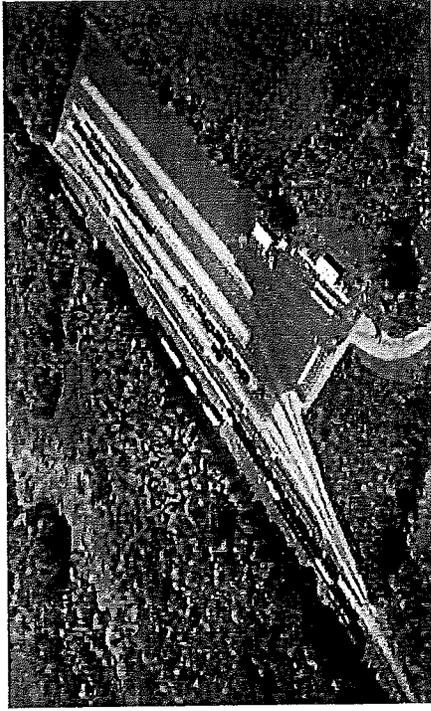
BEALS + THOMAS

REPRESENTATIVE PROJECTS

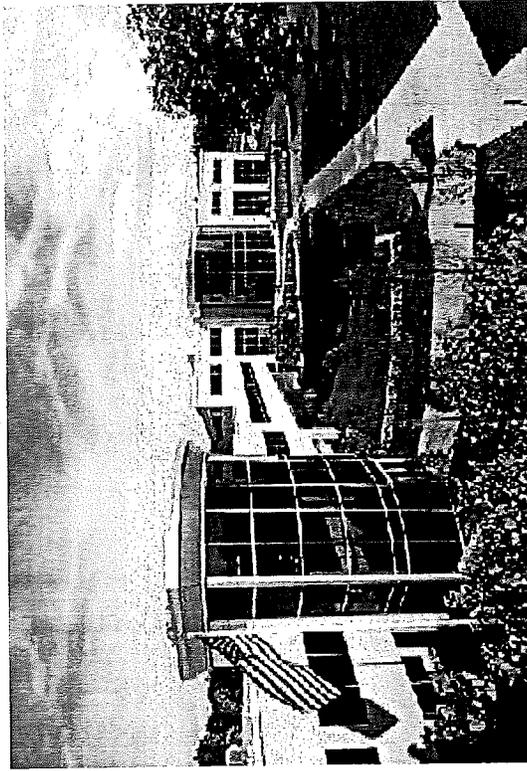
- A. Duie Pyle Distribution Center
Northborough, MA
- Romanow Container
Westwood, MA
- FLEXcon
Spencer, MA
- CSX Terminal Redevelopment
Westborough, MA
- Pound Hill Industrial Park
North Smithfield, RI
- Myles Standish Industrial Park
Taunton, MA
- Bird Machine Company
Walpole, MA
- Avon Industrial Park
Avon, MA
- Cedar Hill Industrial Park
Marlborough, MA
- ISO New England
Holyoke, MA



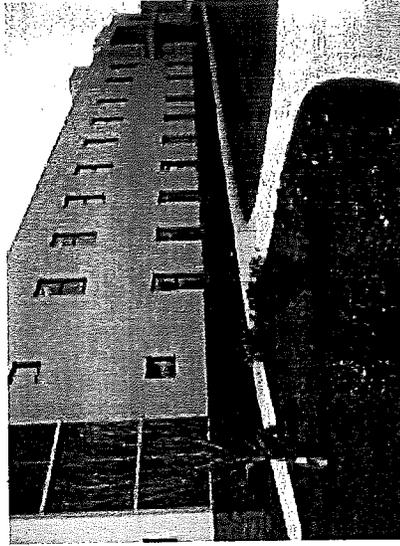
A. Duie Pyle



TRANSELO Westborough Terminal



ISO New England



FLEXcon

Industrial

REPRESENTATIVE PROJECTS

Rosebrook Solar Energy Array
Wareham, MA

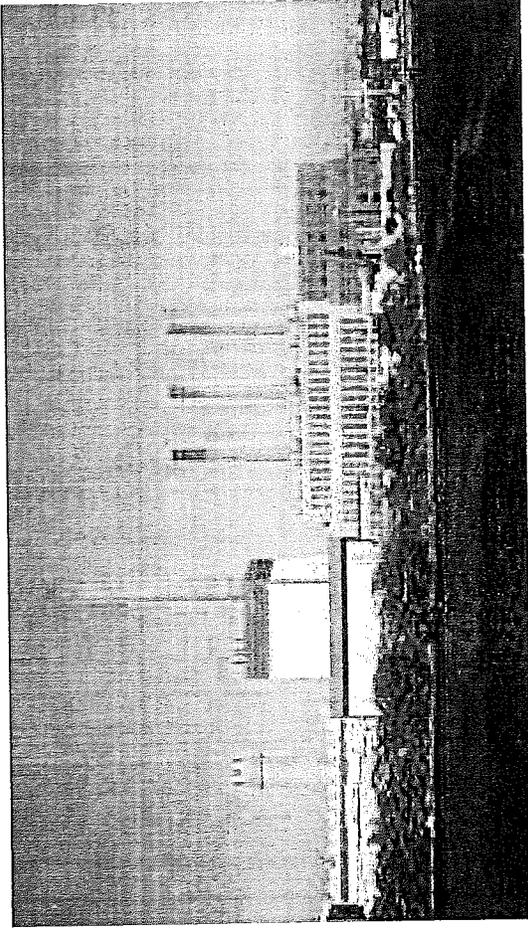
Charlotte Furnace Solar Array
Wareham, MA

Russell Biomass Power Facility
Russell, MA

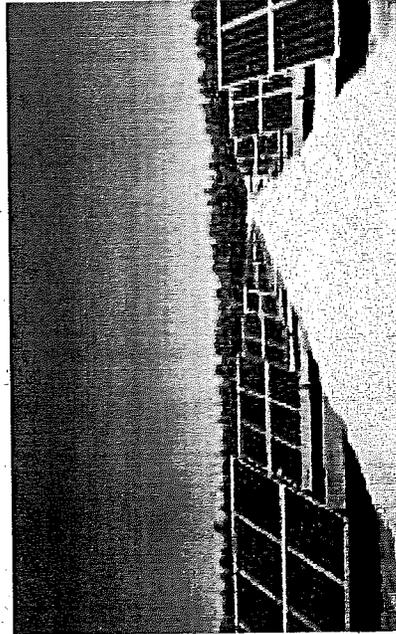
Pilgrim Nuclear Power Station
Plymouth, MA

Fore River Power Station
Weymouth, MA

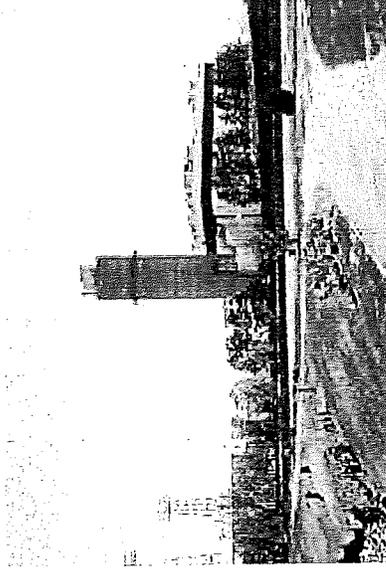
Mystic Station
Everett, MA



Mystic Generating Station



Charlotte Furnace Road Solar Array



Fore River Power Station



Pilgrim Nuclear Power Station

Energy

REPRESENTATIVE PROJECTS

aloft and element Hotels

Lexington, MA

Raynham Woods Commerce Center

Raynham, MA

Long Automotive Dealership

Southborough, MA

Silko Honda

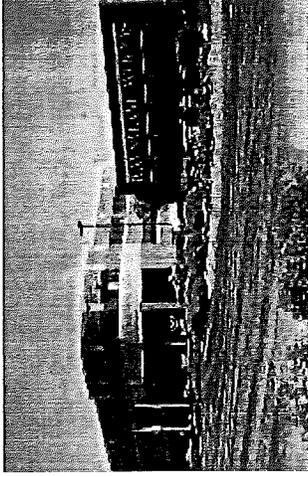
Raynham, MA

Texas Roadhouse Restaurant

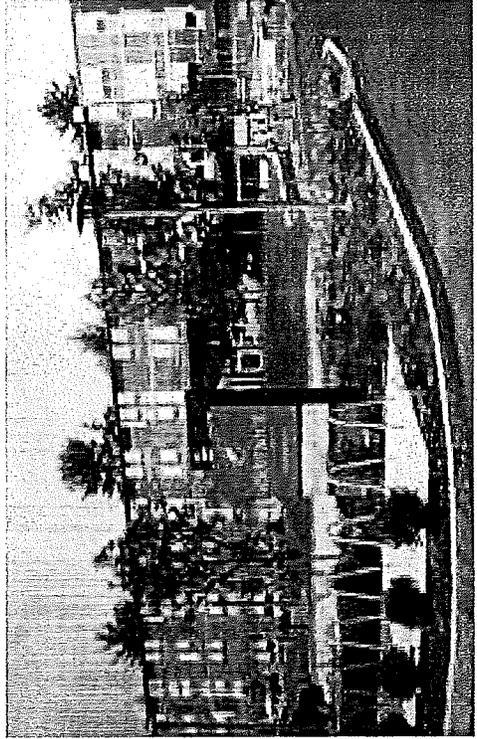
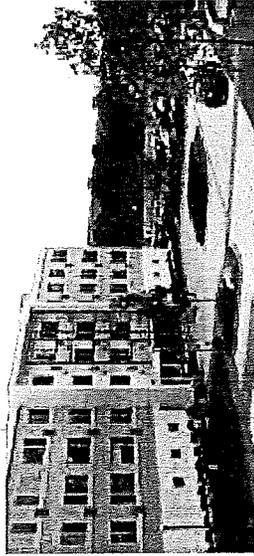
Warwick, RI



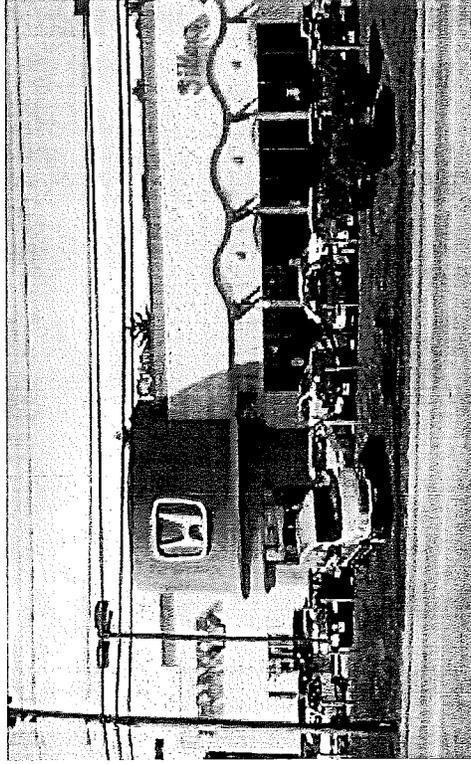
Long Automotive



Raynham Woods Commerce Center



element and aloft Hotels



Silko Honda

Commercial

Leadership

Gerry Preble, PE, LSP
President

Richard P. Kosian, PE, LEED AP
Executive Vice President

John E. Thomas, PWS
Vice President

Mary-Ellen Odone
Treasurer

John E. Bensley, PE
Principal

Robert J. Buckley, PLS
Principal

Kenneth Conte, PLS
Principal

Daniel M. Feeney, PE, LEED AP
Principal

Eric J. Las, PE, LEED AP
Principal

Robert E. Weidknecht, RLA, LEED AP
Senior Associate

David J. LaPointe, RLA, LEED AP
Associate

Stacy H. Minihane, PWS
Associate

Corporate Registrations and Certifications

Professional Engineers

Massachusetts, Connecticut,
Maine, New Hampshire,
Rhode Island, Vermont

Professional Land Surveyors

Massachusetts, Connecticut,
Rhode Island

Registered Landscape Architects

Massachusetts, Connecticut,
Maine, New Hampshire, Rhode Island

Professional Wetland Scientists

National

Licensed Site Professionals

Massachusetts

U.S. Green Business Council

LEED Accredited Professionals
National

American Institute of Certified Planners

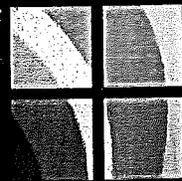
National

Approved Title V System Inspectors

Massachusetts

Approved Soil Evaluators

Massachusetts



BEALS + THOMAS

CORPORATE OFFICE
Reservoir Corporate Center
144 Turnpike Road
Southborough, MA 01772
T: 508.366.0560 F: 508.366.4391
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REGIONAL OFFICE
32 Court Street
Plymouth, MA 02360
T: 508.746.3288 F: 508.746.6407

Appendix C
Subconsultant Information

Vanasse & Associates, Inc.
Lightship Engineering, LLC

VANASSE & ASSOCIATES, INC.
Transportation Engineers and Planners

10 N.E. Business Center Drive
Andover, MA 01810-1066
Tel: (978) 474-8800

Company Qualifications



QUALIFICATIONS/ABOUT THE FIRM

Vanasse & Associates, Inc. (VAI) is a 20-person Traffic Engineering and Transportation Planning firm specializing in land development, transportation planning, traffic engineering and highway/roadway design. VAI is a privately held partnership headquartered in Andover, Massachusetts, and was founded in 1990 by Robert D. Vanasse, P.E., a leader in the transportation engineering field with over forty years of professional experience. Mr. Vanasse is joined by F. Giles Ham, P.E. and Jeffrey S. Dirk, P.E., PTOE as principals of the firm, both of whom have significant experience and depth of knowledge in the fields of Traffic Engineering and Transportation Planning and a proven record of successfully managing complex projects for private, municipal and institutional clients.

Setting an industry standard for service and technical excellence, VAI serves a broad spectrum of clients comprising private industry and public agencies. Privately sponsored projects range from transportation planning for land development projects, to environmental impact studies and state and local permitting for major commercial and residential developments and sporting and event facilities. Public sector efforts include professional review services for cities and towns; parking studies; transportation master plans; roadway corridor studies; traffic signal system and roadway design; safety evaluations and studies; and evaluation of transportation plans for consistency with local zoning, state and community master plans and capital expenditure planning goals.

VAI provides a full complement of transportation planning services for public and private sector clients. These include traffic impact assessments; access planning; highway route location analyses; corridor, parking, and pedestrian studies; transportation modeling; and roadway safety evaluations. On behalf of municipal clients, VAI has undertaken traffic impact assessments and peer reviews of privately proposed development projects such as major retail centers, residential and industrial developments and office parks. State transportation planning agencies have retained VAI to conduct area-wide land-use planning and zoning studies relating traffic use and impacts.

The breadth of VAI's professional engineering staff's expertise enables VAI to advance a project from the conceptual planning, environmental analysis, and community coordination phases, to project cost assessment, value engineering, detailed design and construction management. VAI is engaged in projects of varying size and complexity, and is experienced in completing projects and professional review services requiring coordination with multiple parties and agencies within defined schedules. All services completed by VAI are performed under the direction of a Professional Engineer licensed in the applicable jurisdiction with demonstrated experience in the fields of Traffic Engineering and Transportation Planning.

Today's complex and challenging projects often require extensive interface between client, municipality, and state agencies. On behalf of its clients, VAI acts as liaison to agencies overseeing transportation and traffic issues, and helps navigate an increasingly complex network of local, state, and federal regulation. VAI's successful track record in working cooperatively with government agencies at all levels has helped clients realize significant savings in project time and effort.

Projects today also receive increasingly intense public scrutiny at the local level. VAI is noted not only for its fine technical work but also for effective communication with neighborhood interest groups and municipal review bodies. Through cogent oral presentation and comprehensible graphics, VAI is able to successfully convey a project's issues and solutions to lay people and experts alike.



TRAFFIC ENGINEERING AND TRANSPORTATION PLANNING EXPERIENCE

VAI has completed a number of transportation master plans and provided traffic engineering design services for public school expansions and renovations, mixed-use communities, colleges and universities, sporting and event facilities, and commercial developments in both urban and suburban settings. In completing these services, VAI has successfully worked as an integral part of a design and planning team consisting of environmental scientists; site and civil engineers; architects; land use planners; real estate advisors; and attorneys to develop comprehensive plans and documents that are designed to meet the requirements of the Client in planning, designing, and constructing a project; projecting development costs; and meeting the needs of the communities encompassing the project and the state reviewing agencies. Listed below are a number of currently active and completed transportation master planning and traffic engineering design efforts performed by VAI.

Peer Reviews

- Westford, MA
- Hingham, MA
- Salisbury, MA
- Amesbury, MA
- Chelmsford, MA
- Plymouth, MA
- Andover, MA
- Blackstone, MA
- North Andover, MA
- Lebanon, NH
- Salem, NH
- Hampton, NH
- Greenland, NH

Schools

- Phillips Academy – Andover, Andover, MA
- Duxbury Public Schools Transportation Master Plan – Duxbury MA
- Westborough High School Expansion – Westborough, MA
- Dover Elementary School, Dover, NH
- Groton School Expansion - Groton, MA
- City of Boston School Expansions - Boston, MA
- Fairhaven Elementary School Consolidation – Fairhaven, MA

Colleges and Universities

- Tufts University Grafton Campus Master Plan – Grafton, MA
- Boston College Campus Master Plan – Newton/Boston, MA
- Emmanuel College Campus Master Plan – Boston, MA
- Leslie College – Cambridge, MA

Mixed-Use Developments

- Chestnut Hill Square – Newton, MA
- The Pinehills – Plymouth, MA
- Mashpee Commons – Mashpee, MA
- A.D. Makepeace Company – Carver, Plymouth & Wareham, MA
- The Village at Hospital Hill – Northampton, MA
- Village Green – Foxborough, MA
- The Village at Lincoln Park – Dartmouth, MA
- CitySquare – Worcester, MA

Transit-Oriented Developments

- University Station – Westwood, MA
- Archstone-Smith – Cambridge, MA
- Technology Square – Cambridge, MA
- Waterfront Square – Revere, MA
- South Station Air-Rights – Boston, MA
- The Garden – Boston, MA
- Nashua Street Residences – Boston, MA

Residential Developments

- Pembroke Woods – Pembroke, MA
- Princeton Commons – Chelmsford, MA
- Edgewater Hills – Framingham, MA
- Wellington Place – Medford, MA
- Belmont Uplands – Belmont, MA
- Wellesley Manor – Wellesley, MA
- Lenox Farms – Braintree, MA

Sporting and Event Facilities

- Gillette Stadium – Foxborough, MA
- Fenway Park – Boston, MA
- The Garden – Boston, MA
- Boston Celtics Training Facility – Waltham, MA
- Comcast Center – Mansfield, MA
- Massachusetts Youth Soccer Association – Lancaster, MA
- Symphony Hall – Boston, MA
- Canobie Lake Park – Salem, NH

Commercial Developments

- Patriot Place – Foxborough, MA
- Cape Cod Mall – Hyannis, MA
- Waterford Commons – Waterford, CT
- South Cape Village – Mashpee, MA
- Lowe's Home Improvement Warehouse – Abington, Kingston, Pembroke, Swansea, MA
- Rochester Mall – Rochester, NH
- The Loop – Methuen, MA
- Maine Crossing Mall – Portland, ME
- Brickyard Square – Epping, NH
- BJ's Wholesale Club – CT, FL, ME, MA, NC, NH, NY, PA, VA, RI



Office

- Unicorn Park, Woburn, MA
- Burlington Woods, Burlington, MA
- Burlington Center, Burlington, MA
- Braintree Hill Office Park, Braintree, MA
- One Alewife Center, Cambridge, MA
- One Wall Street, Burlington, MA
- 25 Mall Road, Burlington, MA
- 28 State Street, Boston, MA
- Ten Brookline Place, Brookline, MA
- 101 Huntington Avenue, Boston, MA
- Polaroid Corp. Campus, Waltham, MA
- TJX Headquarters, Framingham, MA
- 3Com - Boxborough, MA

Highway/Roadway Design

- Earl Street - Northampton, MA
- Route 1 - Foxborough, MA
- Route 110 - Amesbury, MA
- Route 1/152 - Plainville, MA
- Route 117 - Leominster, MA
- Route 6 - Dartmouth, MA

Traffic Signal Design

- Route 1 Corridor (8 intersections)- Foxborough, MA
- Route 117 (5 intersections) - Leominster, MA
- Route 1- North Attleborough, MA
- Route 1A (4 intersections) - Revere, MA
- Route 139 (5 intersections) - Pembroke, MA
- Route 9 (10 intersections) - Newton, MA
- Route 28 - Mashpee, MA

Safety Improvements Projects

- Route 6/Route 177 - Dartmouth, MA
- North Street/Chestnut Street - Foxborough, MA
- Brayton Avenue Corridor - Fall River, MA
- Middlesex Street/Wood Street/Rourke Bridge - Lowell, MA
- Fall River Avenue Corridor - Seekonk, MA
- Washington Street/Draper Avenue - North Attleborough, MA
- Foxborough Boulevard/Forbes Boulevard - Foxborough, MA
- Sudbury Road Corridor - Acton, MA
- Route 3A/Summer Street - Hingham, MA
- Route 53/Route 139 - Pembroke, MA
- Route 60/Broadway - Revere, MA

Expert Witness Testimony

- Court Testimony and Support Services
- Public Agency Testimony
- Expert Witness and Opinion Work



Jeffrey S. Dirk, P.E., PTOE - Principal

Education: University of Massachusetts, Amherst, B.S.C.E. with honors, 1991

Affiliations:

- Institute of Transportation Engineers
*Past President, New England Section
Member, Traffic Engineering Council*
- Boston Society of Civil Engineers
- National Society of Professional Engineers
- Massachusetts Society of Professional Engineers
Member, Ethics & Registration and Certification Committee
- University of Massachusetts, Amherst
Member, Advisory Council, Department of Civil and Environmental Engineering

Professional Registrations:

Professional Engineer: Connecticut, Massachusetts, Maine, New Hampshire, Rhode Island and Virginia

Professional Certifications:

- Certified Professional Traffic Operations Engineer (PTOE)
- National Council of Examiners for Engineering and Surveying (NCEES) Record Holder
- Registered in the International Registry of Professional Engineers by the United States Council for International Engineering Practice (USCIEP)

SUMMARY OF EXPERIENCE

Mr. Dirk is a Principal and a Senior Project Manager at Vanasse & Associates, Inc. with over 22-years of experience in the fields of Traffic Engineering, Transportation Planning and Expert Witness Testimony. He is a Fellow of the Institute of Transportation Engineers (FITE) and is a Registered Professional Engineer (P.E.) in the states of Connecticut, Massachusetts, Maine, New Hampshire, Rhode Island, and Virginia, and has been Certified as a Professional Traffic Operations Engineer (PTOE) by the Transportation Professional Certification Board of the Institute of Transportation Engineers (ITE). His responsibilities include the design and analysis of roadway, intersection, and interchange systems, and pedestrian and bicycle facilities, and the preparation and review of traffic impact studies and roadway and intersection design plans for private and municipal clients.

Mr. Dirk's experience in the fields of Traffic Engineering and Transportation Planning encompasses a wide range of duties. Traffic impact studies have included performing trip-generation calculations for large and small scale developments including mixed-use and transit-oriented projects in urban and suburban settings; traffic modeling and analyses; parking demand calculations; trip distribution and origin-destination studies; and the development of

Transportation Demand Management (TDM) strategies, traffic calming measures and project access and off-site improvement strategies. He has extensive experience in the design, analysis and modeling of roadways and signalized and unsignalized intersections, including the design and timing of coordinated traffic signal systems.

Mr. Dirk has prepared detailed design specifications, contract documents, and plans for roadways, intersections, traffic signals, and pedestrian and bicycle facilities, for state and municipal clients including the Massachusetts Department of Transportation (MassDOT); Maine, New Hampshire, and Rhode Island Departments of Transportation (DOTs); and the California Department of Transportation (CALTRANS). Mr. Dirk has also been qualified as an Expert Witness in the fields of Traffic Engineering, Transportation Planning and Roadway/Intersection Safety in the states of Connecticut, Massachusetts, New Hampshire and Rhode Island, and has represented private and municipal clients in testimony and presentations before local, state and federal agencies, municipal officials, and courts of law.

EXPERIENCE

Mr. Dirk's experience in the Traffic Engineering and Transportation Planning fields include the following:

Peer Review Services – Assisted the Towns of Foxborough, Gloucester, Hingham, North Attleborough, Plainville, Plymouth, Sandwich, Scituate, Sharon and Wrentham, Massachusetts; the Cities of Amesbury, Boston and Quincy, Massachusetts; and the Towns of Greenland, Hampton and Plaistow, New Hampshire; in the review of traffic impact studies and parking assessments for proposed retail, office, residential and mixed-use developments, and planned roadway and transportation infrastructure projects.

Traffic Signal Design - Supervised, designed, and managed the preparation of traffic signal plans, phasing and timing design, coordination charts and time-space diagrams, specifications and estimates for traffic signal installations on Route 20 in Millbury, Auburn, and Worcester, MA; Route 12 in Auburn, MA; Route 28 in Brockton, MA; Commonwealth Avenue in Newton, MA; Hamilton Street and Washington Street in Leominster, MA; Route 1 in Attleboro, MA; Route 126 in Ashland, MA; and Quinsigamond Avenue, Southbridge Street, Main Street, and Pleasant Street in Worcester, MA. Prepared traffic signal design plans and timing and coordination plans for closed-loop traffic signal systems for the Brosnihan Square Gateway project in the City of Worcester; Pleasant Street corridor system in the City of Worcester; and the Commonwealth Avenue restoration project in the City of Newton.

Jeffrey S. Dirk, P.E., PTOE (continued)

Pedestrian and Bicycle Facilities – Developed design specifications, route/alignment alternative evaluation parameters, and preferred alignment selection and design for bicycle and pedestrian facilities, both on and off-street, in Worcester, MA and along the Blackstone River Valley from Blackstone, MA to Millbury, MA. Developed warrants for and designed and evaluated locations for the installation of audible pedestrian devices as aids to the visually impaired at signalized intersections.

Traffic Impact Studies - Prepared and managed the development of traffic impact studies including traffic modeling, alternatives analysis, trip generation, distribution and assignment, roadway and intersection analysis and the development of Transportation Demand Management (TDM) strategies, and project access and off-site improvement plans for small and large developments and institutional transportation master planning. Recent projects completed include the following:

Patriot Place, Foxborough, Massachusetts - This project entailed the development of approximately 1.3 million sf of commercial, recreational, office and medical office space, including the first Bass Pro-Shops outdoor retail store in the northeast, to be located adjacent to Gillette Stadium, home to the New England Patriots football team and the New England Revolution soccer team. The work effort included detailed traffic modeling and analyses of operating conditions both with and without an event at Gillette Stadium, inclusive of both vehicle and pedestrian access and circulation, at over 30 intersections, including the I-95/Route 1 and I-495/Route 1 interchanges; the development of game day traffic, parking, and pedestrian management plans for the Route 1 corridor and within the stadium parking facilities; formulation of a comprehensive TDM program for both Stadium events and typical daily operations of both the Stadium (non-event) and the planned commercial center. This project entailed multiple challenges unique to the creation of a vibrant commercial facility proximate to a 68,000-seat stadium surrounded by over 14,000 parking spaces and bounded by a four-lane state highway, an active rail line and seasonal commuter rail station, and wetland areas.

The Pinehills, Plymouth, Massachusetts – This project involved the development of a 3,000 ± acre planned use development (PUD) consisting of 1,897 limited occupancy homes; 920 planned retirement homes; four 18-hole golf courses; and 1.3 million sf of commercial retail/office space. The study area encompassed 25 intersections and included Route 3 from the Kinston Town Line to the Bourne Town Line and all ramps and interchanges between these points. Major development goals of the project included the development of a transportation system that would adequately serve the needs of the community, while balancing the desires of the developer and the Town to maintain the rural character of the

existing roadways, the project site and adjacent properties. The work effort included the development of a detailed Transportation Demand Management (TDM) program of the community; traffic calming measures to reduce vehicle travel speeds through the community and discourage cut-through traffic on residential roadways; design of off-site roadway improvements, including Route 3 interchange modifications, traffic signal installations, modern roundabout, and by-pass roadway design.

Tufts University Grafton Campus Master Plan, Grafton, Massachusetts – This project included the development of an institutional Master Plan for the Tufts University Grafton Campus in an effort to manage transportation issues related to the Campus and future development in the area. The project included a 256,850± sf expansion of the existing campus, as well as the development of a 702,000 ± sf biomedical science park. The work effort included the review and development of vehicular and pedestrian connections both internal to the campus and to and from the local roadway system providing access to the University. Specific measures to reduce vehicular travel and parking demand on the Campus and encourage bicycle and pedestrian travel were developed. Potential off-campus improvements were developed where necessary to improve traffic flows and address vehicle and pedestrian safety issues.

Boston College Campus Master Plan, Newton, Massachusetts - This project entailed the development of a Campus Master Plan designed to accommodate future growth of the campus and outparcel buildings. The transportation component of the master planning effort entailed a review of the existing campus transportation network including roadway, pedestrian and bicycle facilities and the development of a balanced transportation facilities improvement program designed to be integrated into the future campus development program. Key elements in the transportation master plan were the enhancement and expansion of public transportation and shuttle services available within the campus system and the continued emphasis on pedestrian facilities linking campus resources. The planning effort also included the development of a transportation management program for events such as football games and graduation. Coordination with both the City of Newton and the City of Boston were essential facets of the work effort.

Waterfront Square at Revere Beach, Revere, Massachusetts – This project entailed the redevelopment of existing Massachusetts Bay Transportation Authority (MBTA) commuter parking facilities serving Wonderland Station on the MBTA's Blue Line subway system, Revere Beach and the Wonderland dog track in mixed-use, transit-oriented development consisting of a 902-unit residential community; 28,500 sf of retail space; 145,350 sf of office space; a 100-room hotel; and on-site structured parking for approximately 1,087 vehicles; to be situated on an 8.77± acre parcel of land

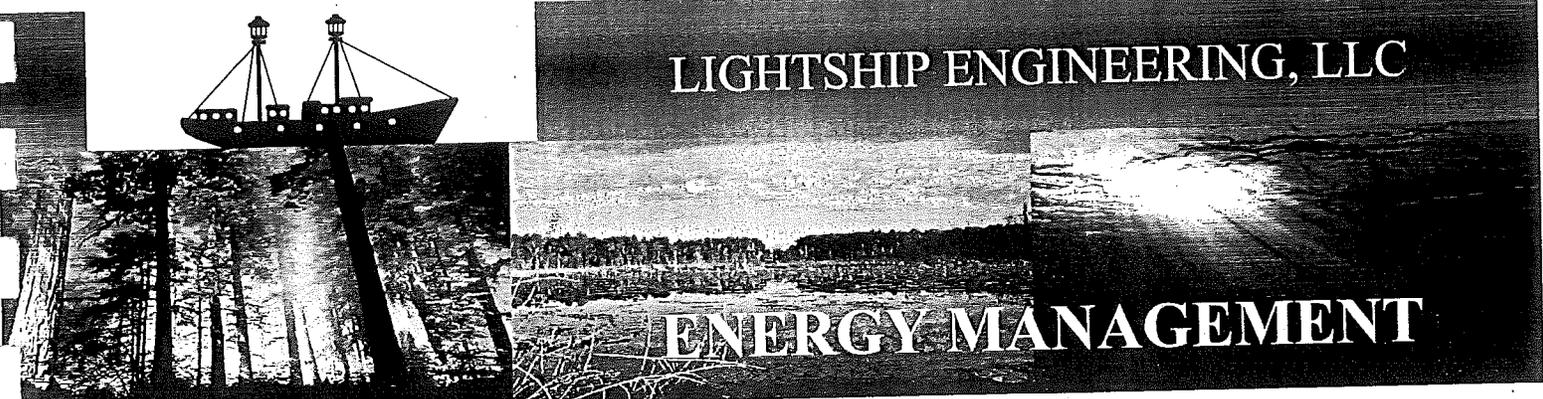
Jeffrey S. Dirk, P.E., PTOE (continued)

located adjacent to the MBTA's Wonderland Station on the Blue Line in Revere, Massachusetts. The project also featured the construction of two parking garages to service Wonderland Station; reconfiguration and improvement of the busway and pedestrian and vehicle circulation improvements within the Station; and the construction and enhancement of pedestrian and bicycle connections to the project, Wonderland Station and Revere Beach, including a pedestrian and bicycle bridge over both Ocean Avenue and the MBTA subway line. The major elements of the work effort included: assessing current and projected parking demands and supply for the project, the MBTA and current and future development; evaluation of pedestrian and bicycle volumes, accessibility and safety; projecting traffic demands for the project integrating public transportation options and pedestrian and bicycle activity; determining transit and bus ridership and capacity; developing an effective TDM program for residents, employees and hotel guests; and designing a comprehensive transportation improvement program that reflected the transit-oriented nature of the project, addressed

Village Hill, Northampton, Massachusetts - This project included the redevelopment of the former 126-acre Northampton State Hospital campus into a mixed-use community encompassing approximately 207 residential units, an assisted living facility, and approximately 476,000 sf of commercial space including a mix of light industrial, office, and retail space, as well as a community center and day care facility. The project was subject to extensive environmental review by the state and included several community meetings and workshops to solicit ideas and refine the elements and goals of the planned community. The study area encompassed 17 intersections and 10 roadways, as well as local and regional bus services and pedestrian and bicycle facilities. The major elements of the work effort included a detailed analysis of existing and future operating conditions on the study roadways and at the study intersections; the development and evaluation of improvements and roadway alignment alternatives to address existing and projected future deficiencies; providing traffic calming alternatives designed to reduce traffic volumes and travel speeds in residential areas; and the development of a comprehensive Transportation Demand Management (TDM) program for the employees and residents of the community that incorporated public transportation, pedestrian and bicycle resources, as well as provision of on-site amenities in order to reduce off-site traffic impacts associated with the development. An annual monitoring program was developed designed to gauge the effectiveness of the TDM program and to allow for the expansion and refinement of the services offered. Coordination with the City of Northampton, the Citizens Advisory Committee (CAC), MassDOT, the regional planning agency, and the Pioneer Valley Transit Authority (PVTA) were an integral part of the planning effort completed for the community.

South Station Air Rights Development, Boston, Massachusetts - This project involved the preparation of a comprehensive transportation impact assessment and planning document for the development of approximately 2.1 million gross square feet of office, hotel and research and development (R&D) space to be located in three buildings encompassing a forty-seven story office tower; a 500-room hotel and a nine-story R&D building; to be located over the South Station Transportation Center and the MBTA and Amtrak rail lines. Key elements to the completion of this work effort were integrating the transportation elements of the planned project into the future regional and local surface transportation system being constructed by the CA/T project and the City of Boston, and planned public transportation improvements being undertaken by the MBTA, Amtrak, and the Massachusetts Port Authority. A comprehensive TDM program and parking management plan were developed for the project, as well as a construction management plan and service/delivery truck operations management plan. Close coordination with the City of Boston, the CA/T project, the MBTA, Amtrak, and the U.S. Postal Service were a primary part of the successful completion of this planning effort.

South Cape Village, Mashpee, Massachusetts - This project consisted of the development of a 160,000 sf retail center located off Route 28 and west of the Mashpee Rotary in Mashpee, Massachusetts. The project was subject to an extensive review by the Massachusetts Environmental Policy Act (MEPA) Office, MassDOT, the Cape Cod Commission and the Town of Mashpee, and was the first major project to be reviewed under the Development of Regional Impact (DRI) guidelines of the 2002 Cape Cod Regional Policy Plan. The study area for the project encompassed 50 regional intersections and 92 regional roadway links, and included an evaluation of public transportation services and pedestrian and bicycle facilities under both average and peak summer month conditions. The successful approval of this project required extensive coordination with MassDOT, the Town of Mashpee and the Cape Cod Commission. A detailed Transportation Demand Management (TDM) program was developed for the project, as well as a comprehensive assessment of improvement alternatives for the Mashpee Rotary, including a two-lane modern roundabout, grade-separated interchange and coordinated traffic signal control.



LIGHTSHIP ENGINEERING, LLC

ENERGY MANAGEMENT

BUILDING PERFORMANCE SERVICES

- Building Energy Performance Assessments
- ASHRAE Level I, II and III Energy Audits
- Renewable Energy Evaluations
- Sustainability Master Planning
- LEED Certification Evaluations
- EPA Portfolio Manager Benchmarking
- Solid Waste Management Policies
- Indoor Air Quality Surveys
- New and Existing Building Commissioning
- Sustainable Purchasing Policies
- Green Cleaning Products Policy
- Landscape and Hardscape Management Policies
- Stormwater Management Policies
- Indoor Air Quality Management Policies

LIGHTSHIP ENGINEERING

39 Industrial Park Road
Unit C

Plymouth, MA 02360
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Fax: (508) 830-3344

www.LightshipEngineering.com

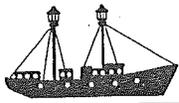
The need to optimize building performance and implement sustainable workplace practices cannot be overstated. Energy costs are continually rising, the impacts of pollution are evident and our natural resources are not inexhaustible. The good news is that minimizing our environmental impact does not have to be a financial burden or result in an uncomfortable workplace. On the contrary, improving building performance typically results in an improved workplace environment and lower energy consumption. Reducing costs and increasing environmentally sustainable practices do not have to be mutually exclusive policies.

Lightship Engineering provides a full suite of life-cycle services that will assist in improving and documenting the performance of your building. Services include:

- | | |
|-------------------------------|--|
| Benchmarking | Evaluate the energy performance of your building and compare the results to similar buildings in the same geographical area. |
| Energy Audits | ASHRAE energy audits documenting existing conditions and identifying potential energy saving measures. |
| Building Commissioning | Survey new or existing building systems for proper operation and efficiency. |
| Energy Modeling | Develop a model of your building(s) to simulate building performance and provide a comparison of various energy conservation measures under consideration. |
| Renewable Energy | From assessing the potential for renewable energy alternatives to construction management of projects. |
| Indoor Air Quality | Poor IAQ results in lower performance levels and can increase the spread of airborne illnesses. |
| LEED Certification | Evaluate potential for LEED certification and develop associated cost estimates. |

Lightship Engineering provides full-service turnkey building performance services and has the experience and technical training to provide you with the support you need to improve the performance of your buildings.

Lightship Engineering is a full service environmental engineering firm founded on the principal that our success would be tied directly to the success of our clients. Since 2001, Lightship Engineering has worked closely with our clients to understand their goals and, based upon sound engineering principles, develop strategies that can lead to a successful project.



LIGHTSHIP ENGINEERING, LLC

Assessment and Remediation

Assessment Services

- Due Diligence Investigations
- Soil, Groundwater, Surface Water, and Sediment Investigations
- Emergency Response Services
- Human Health and Ecological Risk Characterization
- Geophysical Investigations
- Asbestos, Lead Paint and Mold Surveys
- Indoor Air Surveys

Remediation Services

- Pilot Testing
- Excavation and Dewatering
- Lead Stabilization
- In-Situ Chemical Oxidation
- Bioremediation
- Air Sparging
- Soil Vapor Extraction
- Multi-phase Extraction
- Thermal Treatment
- Capping
- Natural Attenuation
- Reactive Treatment Walls
- Groundwater Extraction
- Free Product Recovery

LIGHTSHIP ENGINEERING

ENVIRONMENTAL & LAND-USE CONSULTANTS

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Unit C
Plymouth, Massachusetts 02360

Phone: 508-830-3344
Fax: 508-830-3360

www.lightshipengineering.com

Lightship Engineering is a full-service environmental and land-use firm specializing in the assessment, cleanup and redevelopment of residential, commercial and industrial properties. Lightship Engineering's design/build approach allows us to complete site assessment and, if necessary, rapidly move into a remediation phase, saving our clients both time and money. Lightship Engineering successfully partners with clients such as commercial developers, who often require accelerated assessment and remediation in order to obtain financing or meet construction deadlines. Our experience and ingenuity in conducting assessment/remediation simultaneously with site construction can minimize, and often eliminate, impacts to construction timelines and costly overruns.

Our clients rely on timely and cost-effective solutions to environmental issues. Lightship Engineering's management team provides clients with the information they need to make critical business decisions.

Lightship Engineering's subsurface investigation and remediation experience includes work at:

- Former Manufactured Gas Plants,
- Tar Processing Facilities,
- Nuclear Power Plants,
- Natural Gas Storage and Distribution Facilities,
- Electric Generation and Distribution Facilities,
- Military Bases,
- Airports,
- Bulk Petroleum Storage and Distribution Facilities,
- Retail Gasoline and Diesel Stations,
- Vehicle Maintenance Facilities,
- Marinas,
- Junkyards, and
- Industrial/Manufacturing Facilities.



LIGHTSHIP ENGINEERING, LLC

WATER AND WASTEWATER ENGINEERING SERVICES

DRINKING WATER SERVICES

- Distribution Systems Design
- Permitting
- Well Installation/Abandonment
- Sampling and Analysis
- Operation and Maintenance
- System Restoration

WASTEWATER SERVICES

- System Design and Permitting
- Groundwater Discharge Permitting
- Engineering Report Service for Groundwater
- Construction Management
- Operation and Maintenance
- Licensed Operators
- 24-hour On-call Service
- Advanced Trouble Shooting Capabilities

**LIGHTSHIP
ENGINEERING**

39 Industrial Park Road
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Plymouth, MA 02360
Phone: (508) 830-3344
Fax: (508) 830-3344

www.LightshipEngineering.com

DRINKING WATER SUPPLIES

The supply of fresh, clean drinking water is basic to our lives and protecting our sources of drinking water is of paramount importance. As a result, the safe and sustainable use of our water resources is a critical component to the development and redevelopment of land. In many portions of the country, connecting to a municipal water supply as a source of clean and safe drinking water is not an option. In these cases, an on-site source of drinking water is necessary for successful development.

Lightship Engineering's staff of engineers and geologists provides a full, turnkey set of services related to drinking water supplies. Lightship Engineering's services include identifying potential well locations, conducting exploratory investigations, permitting water supplies, installation of water supply wells, design and construction of water treatment plants, operation and maintenance of water supply systems and periodic sampling and regulatory reporting.

WASTEWATER MANAGEMENT

Many rural and suburban communities do not provide centralized wastewater collection systems and, therefore, on-site wastewater treatment and disposal is the only option for landowners. Depending on the size of the property, the specific subsurface conditions and the intended uses, the design, installation and operation of a wastewater treatment system can range from a simple leaching field system to an advanced wastewater treatment plant.

As the science of wastewater treatment advances and the impacts to the environment resulting from improper wastewater disposal become better understood, higher levels of wastewater treatment will become the norm. Lightship Engineering closely monitors regulatory changes and technical advancements in order to provide our clients with the ability to meet the challenges of any site.

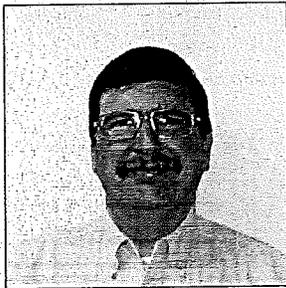
Lightship Engineering's services include system design and permitting, all facets of groundwater discharge permitting, engineering report services required by groundwater discharge permits, construction management, licensed operation and maintenance up to grade 5-C, 24-hour on-call service and advanced trouble shooting capabilities.

Lightship Engineering is a full service environmental engineering firm founded on the principal that our success would be tied directly to the success of our clients. Since 2001, Lightship Engineering has worked closely with our clients to understand their goals and, based upon sound engineering principles, develop strategies that can lead to a successful project.

Thomas E. Jordan, PhD, P.G.

Senior Project Manager/Senior Hydrogeologist

Professional Registrations and Certification			
Registration/Certification	State	Number	Date Exp.
Professional Geologist	PA	PG001071	9/30/15
Professional Geologist	AL	14	8/30/14
Professional Geologist	GA	PG002036	12/31/15
Professional Geologist	MN	30715	6/30/14
Professional Geologist	WI	369	7/31/14
Professional Geologist	SC	2513	6/30/15
Licensed Geologist	IN	1789	9/30/16
Registered Professional Geologist	MO	RG 0707	4/30/15
CFR 1910.120, 40-Hour Health & Safety Training/Refresher			current



Education:

B.A., Geology, Alfred University, 1984
 M.S., Geology, SUNY College at Fredonia, 1986
 PhD, Geophysics, University at Buffalo, 2003

Years of Experience/Years with KEY: 26/11

Professional Experience:

- Over 25 years of experience in geology, hydrogeology and geophysics
- Environmental projects administered under CERCLA and RCRA as well as state brownfields and municipal waste programs
- Development and oversight of investigation programs
- Development of conceptual and digital models of complex geological and hydrogeologic conditions in faulted and folded sedimentary, metamorphic and igneous bedrock terranes
- Mapping and interpreting the subsurface in a variety of geologic provinces in the U.S., Canada, and the Pacific
- Project management

Primary Responsibilities:

- Act as the certifying geologist for environmental investigation and agency submittals
- Provide technical lead and management of environmental projects pursuant to CERCLA, RCRA and state programs
- Process and interpret geophysical data from engineering and resource exploration sectors

Key Expertise

- Geology
- Geophysics
- GIS
- Groundwater Modeling
- Conceptual Models
- Brownfields
- MGPs
- Landfills
- Resource Exploration

Representative Projects		
Role	Project	Location
Project Manager	Former Specialty Chemical Manufacturing Facility: Historical releases of chlorinated hydrocarbons, acids and PCBs occurred unconsolidated deposits that overly the primary bedrock drinking water aquifer for the region. The PCBs were addressed via removal; the acids addressed by the natural buffer capacity of the soil; and, the chlorinated solvents will be addressed via the design of a funnel-and-gate system combined with a focused in-situ chemical oxidation to replace a historical pump and treat remedy.	SC
Project Geophysicist	Golf Course: A multi-component, non-invasive, and non-disruptive geophysical investigation of an active golf course constructed on landfilled military wastes. Project included delineation of wastes that were placed both on-land and off-shore.	FL
Senior Geologist	Former Waste Disposal Site: Conceptual and 3D GIS based geostatistical and hydrostratigraphic digital model development at former quarry sites that had historically received various waste streams in support of a site-wide groundwater investigation and remedy.	PA
Project Manager	Artifact Collector: A multi-component geophysical investigation to identify locations of buried World War II era aircraft for a private collector and vintage aircraft enthusiast.	IN
Senior Geologist or Geophysicist	Former MGP Sites: Groundwater modeling, geophysical delineation of buried abandoned infrastructure, NAPL, and process residues, and/or hydrogeological investigations of former MGP sites	MA, NJ, NY, PA
Project Geophysicist	Nuclear Reactor Manufacturing Facility: Geophysical well logging, well inspection, and recommendation services to support a NRC permit modification regarding a groundwater monitoring well network at a nuclear reactor manufacturing and fuel cell loading facility.	CT
Project Geophysicist	Wind Farm: Used multi-electrode resistivity tomography to map subsurface stratigraphy and delineate karst features as part of the site selection and foundation design process for an extensive wind farm project.	TX
Project Geophysicist	Fly Ash Landfill: Geophysical delineation of fly ash and other landfilled wastes associated with the historic operation of a power and steam plant facility at an extensive former state hospital campus.	NY
Project Geologist	Pharmaceutical Manufacturer: Mapped buried infrastructure and translated existing digital data into state plane coordinates in support of the planning, design, and construction of a modified process area.	GA
Project Geologist	Nuclear Power Facilities: On-site training of personnel and assistance with the development of an environmental monitoring program for three nuclear power plants and one automated radionuclide waste processing facility.	Taiwan
Project Geophysicist	Natural Gas Storage Facility: High resolution micro-gravity data collection with integration with existing 2-D seismic reflection and borehole geophysical logs to generate a 2.5 dimensional computer model of the subsurface to provide decision making support for the selection and development of candidate natural gas storage fields.	PA
Project Geophysicist	Landfill Permitting / Landfill Expansion: Geophysical delineation of recently active (Holocene) faults to support permitting for the construction of proposed landfills in the high deserts of California and Oregon and the arid regions of Hawaii.	CA, HI, OR
Project Geophysicist	Former Landfill: Multi-component geophysical delineation of buried permeable fluvial channels within claystone deposits in an effort to optimize the placement of groundwater monitoring wells in support of an environmental investigation conducted by a PRP group.	CO
Project Geophysicist	Chemical Weapons Facility: Multi-component geophysical delineation of buried hazards in support of a site-wide investigation of an active weapons research, design, and testing facility.	MD
Project Geologist	Quarry Dewatering: Planning, collection, and analysis of hydrogeologic data from a multi-site quarry dewatering project in rural Ontario, Canada.	Ontario
Project Geophysicist	Electronics Manufacturer: Mapped bedrock topography and karst features using seismic tomography for optimization of monitoring well placement for the delineation of a chlorinated solvent plume. Used stable isotope ratio analysis of groundwater samples to determine the origins of constituents of interest	VA
Project Geologist	Former Wood Treatment Facility, Coke Oven Complex, and Coal Tar Refining Facility: Groundwater response actions and certifying geologist at various former manufacturing facilities in Alabama.	AL