



Kirkland Appraisals, LLC

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PROFESSIONAL EXPERIENCE

Kirkland Appraisals, LLC , Raleigh, N.C. Commercial appraiser	2003 – Present
Hester & Company , Raleigh, N.C. Commercial appraiser	1996 – 2003

PROFESSIONAL AFFILIATIONS

MAI (Member, Appraisal Institute) designation #11796	2001
NC State Certified General Appraiser # A4359	1999
VA State Certified General Appraiser # 4001017291	
SC State Certified General Appraiser # 6209	
FL State Certified General Appraiser # RZ3950	
GA State Certified General Appraiser # 321885	
MI State Certified General Appraiser # 1201076620	
PA State Certified General Appraiser # GA004598	
OH State Certified General Appraiser # 2021008689	
IN State Certified General Appraiser # CG42100052	
KY State Certified General Appraiser # 5522	

EDUCATION

Bachelor of Arts in English , University of North Carolina, Chapel Hill	1993
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CONTINUING EDUCATION

Pennsylvania State Mandated Law for Appraisers	2023
What NOT to Do (NCDOT Course)	2023
The Income Approach – A Scope of Work Decision	2023
Valuation of Residential Solar	2022
Residential Property Measurement and ANSI	2022
Business Practices and Ethics	2022
Uniform Standards of Professional Appraisal Practice Update	2022
Sexual Harassment Prevention Training	2021
Appraisal of Land Subject to Ground Leases	2021
Michigan Appraisal Law	2020
Uniform Standards of Professional Appraisal Practice Update	2020
Uniform Appraisal Standards for Federal Land Acquisitions (Yellow Book)	2019
The Cost Approach	2019
Income Approach Case Studies for Commercial Appraisers	2018
Introduction to Expert Witness Testimony for Appraisers	2018
Appraising Small Apartment Properties	2018
Florida Appraisal Laws and Regulations	2018
Uniform Standards of Professional Appraisal Practice Update	2018
Appraisal of REO and Foreclosure Properties	2017

Appraisal of Self Storage Facilities	2017
Land and Site Valuation	2017
NCDOT Appraisal Principles and Procedures	2017
Uniform Standards of Professional Appraisal Practice Update	2016
Forecasting Revenue	2015
Wind Turbine Effect on Value	2015
Supervisor/Trainee Class	2015
Business Practices and Ethics	2014
Subdivision Valuation	2014
Uniform Standards of Professional Appraisal Practice Update	2014
Introduction to Vineyard and Winery Valuation	2013
Appraising Rural Residential Properties	2012
Uniform Standards of Professional Appraisal Practice Update	2012
Supervisors/Trainees	2011
Rates and Ratios: Making sense of GIMs, OARs, and DCFs	2011
Advanced Internet Search Strategies	2011
Analyzing Distressed Real Estate	2011
Uniform Standards of Professional Appraisal Practice Update	2011
Business Practices and Ethics	2011
Appraisal Curriculum Overview (2 Days – General)	2009
Appraisal Review - General	2009
Uniform Standards of Professional Appraisal Practice Update	2008
Subdivision Valuation: A Comprehensive Guide	2008
Office Building Valuation: A Contemporary Perspective	2008
Valuation of Detrimental Conditions in Real Estate	2007
The Appraisal of Small Subdivisions	2007
Uniform Standards of Professional Appraisal Practice Update	2006
Evaluating Commercial Construction	2005
Conservation Easements	2005
Uniform Standards of Professional Appraisal Practice Update	2004
Condemnation Appraising	2004
Land Valuation Adjustment Procedures	2004
Supporting Capitalization Rates	2004
Uniform Standards of Professional Appraisal Practice, C	2002
Wells and Septic Systems and Wastewater Irrigation Systems	2002
Appraisals 2002	2002
Analyzing Commercial Lease Clauses	2002
Conservation Easements	2000
Preparation for Litigation	2000
Appraisal of Nonconforming Uses	2000
Advanced Applications	2000
Highest and Best Use and Market Analysis	1999
Advanced Sales Comparison and Cost Approaches	1999
Advanced Income Capitalization	1998
Valuation of Detrimental Conditions in Real Estate	1999
Report Writing and Valuation Analysis	1999
Property Tax Values and Appeals	1997
Uniform Standards of Professional Appraisal Practice, A & B	1997
Basic Income Capitalization	1996

EXPERIENCE SUMMARY

Aditi Tripathy is an acoustic engineer with more than 5 years of experience in underwater acoustics and marine soundscapes. She is the lead acoustic developer of Tetra Tech’s animat model, TtAIME. Her specialization is in the acoustic detection of low-, mid-, and high-frequency vocalizing marine mammals, which has implications for density estimation. Her research focused on impacts of episodic oceanographic variability on ocean acoustics, acoustic propagation, and marine mammal detection. Owing to her research, she has extensive experience assessing the effects of natural and anthropogenic sounds on several protected marine mammal species, particularly fin, humpback, minke, and pilot whales. Currently, she is specializing in modeling sound exposure for both underwater (PE, Ray-trace, Normal Modes algorithms) and in-air acoustics such as solar facilities and onshore wind farms using CadnaA. She is trained in ambient sound analysis, changepoint detection, passive acoustic detection, propagation modeling, sonar performance, and agent-based exposure modeling. While Aditi has largely focused on the Outer Continental Shelf region, she also has considerable experience assessing ambient sound nearshore and onshore.

CORPORATE PROJECT EXPERIENCE

EKPC, Bluegrass Plains Solar Project (2024)

East Kentucky Power Cooperative plans to construct and operate the Bluegrass Plains Solar Project, a solar photovoltaic power generation facility that will consist of an up to 40 MW ground-mounted solar photovoltaic system and related interconnection and ancillary facilities. The proposed Project is located on approximately 386 acres of agricultural land on contiguous parcels in Fayette County, Kentucky. Project components will include photovoltaic solar modules, inverters, medium voltage transformers, junction boxes, direct current and alternating current (DC and AC) electrical collection systems, and collection lines. Aditi performed in-air acoustic modeling and drafted the acoustic assessment report for the Project.

PGE, Carty Solar Project (2024)

The Portland General Electric Company is submitting a Request for Amendment 4 to the Site Certificate for the Carty Generating Station. The Facility is located approximately 13 miles southwest of Boardman, in Morrow County, Oregon. Aditi performed in-air acoustic modeling and drafted the acoustic assessment report for the Project.

AES, Thorn Lake Solar Project (2023)

The AES Corporation, Inc., is proposing the construction and operation of the Thorn Lake Solar Project, which is a 20-Megawatt (MW) photovoltaic facility under development in Manchester Township, Washtenaw County, Michigan. The Project will occupy approximately 159 acres of existing farmland. Land adjacent to the Project area is surrounded by rural residences. The Project will include motorized single axis tracker PV module support structures, inverters placed throughout the site, and a small substation located along the northern boundary of the Project area. Aditi performed in-air acoustic modeling and drafted the acoustic assessment report for the Project.

EDUCATION

MS, Ocean Engineering,
University of New Hampshire,
2022

BS, Marine Biology/Acoustics,
University of Rhode Island,
2019

AREA OF EXPERTISE

- Ocean ambient sound
- Acoustic propagation
- Marine mammal detection
- Marine soundscapes
- Sonar performance
- Sound exposure and animat modeling
- Acoustic model development

YEARS OF EXPERIENCE

5

YEARS WITHIN FIRM

2

BrightNight, Dutchman Solar Project (2023)

DUTC bn, LLC (Dutchman Solar), a subsidiary of BrightNight, LLC (BrightNight), is proposing to develop the Dutchman Solar Project in Converse County, Wyoming. The 4,706-acre Project site includes 4,675 acres for the proposed solar energy facilities and 31.1 acres for the proposed generation-tie transmission line corridor. The Project is a proposed utility-scale solar energy facility that will have a generating capacity of up to 499 MW of renewable energy with battery storage. The primary Project components include approximately solar modules and battery energy storage systems, substations, operations and maintenance buildings, and transmission line. Aditi performed in-air acoustic modeling and drafted the acoustic assessment report for the Project.

One Energy, Wallula Gap Solar Project (2023)

OneEnergy Development, LLC proposes development of the Wallula Gap Solar Energy Project on up to approximately 437 acres in Benton County, Washington. The Project will consist of a 60 MW solar photovoltaic energy generation system, battery energy storage system with associated power conversion system, inverters, and photovoltaic inverters with collocated transformers. Aditi performed in-air acoustic modeling and drafted the acoustic assessment report for the Project.

Ranger, Hawkeye II Solar Project (2023)

The Hawkeye Solar II Project is a proposed 120 MW utility scale solar facility and 75 MW battery energy storage system (BESS) in an approximately 1,230-acre Project area, including easements, located adjacent to Hawkeye I and Hatchling Solar Projects in Clinton County. The Project will include photovoltaic solar panels. In addition, the Project will also include single axis trackers, PV inverters, a BESS area inclusive of power conversion system inverters, an electrical collection system, access roads, and perimeter security fencing. Aditi performed in-air acoustic modeling and drafted the acoustic assessment report for the Project.

Tri-state, Crosspoint Substation Project (2023)

Tri-State Generation and Transmission Association, Inc. is proposing to construct a new substation named the Crosspoint Substation in El Paso County, Colorado. The Crosspoint Substation will increase load serving capability and system voltage for residents within the load serving area. Aditi performed in-air acoustic modeling and drafted the acoustic assessment report for the Project.

Tri-state, Axial Basin Substation Project (2023)

Tri-State Generation and Transmission Association, Inc. is proposing to construct a new substation named the Axial Basin Substation. The Axial Basin Substation will interconnect the Axial Basin Solar Project to the Craig to Meeker transmission line, approximately 18 miles southwest of Craig in Moffat County, Colorado. Aditi performed in-air acoustic modeling and drafted the acoustic assessment report for the Project.

PREVIOUS EXPERIENCE**Atlantic Deepwater Ecosystem Observatory Network (ADEON) and Acoustic and Environmental Observation Network (AEON), Center for Acoustics Research and Education, University of New Hampshire (2019–2022)**

Studied the use and impact of sentinel indicators in ocean acoustics. Quantified the impact of hurricanes on ambient noise and acoustic propagation in the U.S. Mid- and South Atlantic Outer Continental Shelf. Modeled the effects of hurricane noise on the acoustic detection of low-, mid- and high-frequency cetaceans as part of the Atlantic Deepwater Ecosystem Observatory Network. Work supported by the Office of Naval Research.

STEMM-CCS and Blue Ocean Monitoring Project, National Oceanography Center Southampton, Institute of Sound and Vibration Research, UK (2018)

Analyzed potential short duration events at the Scanner Pockmark, a marine protected area in the North Sea. Analyzed marine mammal vocalization on the northwest coast of Scotland (as part of Blue Ocean Monitoring MASSMO 4). Characterized the soundscapes near Marchwood, Falmouth, and the Southampton Solent. Work supported by the National Environment Research Council.

Block Island Wind Farm Project, University of Rhode Island (2017–2019)

Characterized the soundscape near the Block Island Wind Farm to study the impact of ambient noise due to the construction and operation of the wind farm. Performed manual detections of acoustic sources, including operational wind turbines, shipping, and baleen whales. Work supported by the Bureau of Ocean Energy Management and Navy STEM Grant.

EXPERIENCE SUMMARY

Ms. Marrs is a GIS Analyst with 19 years of experience. She works with disparate data types to perform complex spatial analysis and create maps for reports, presentations, and web streaming services. She has created large-scale overview and detail maps to assist with linear route delineation, to support land use presentations to the public, and to support land use analysis, constraints and decision-making.

She is proficient in ArcGIS 3.3, 8.3, 9.X, and 10.X, ArcPro, and ArcGIS Online (Collector), as well as the Microsoft Office Suite. She is able to work with all types of spatial data formats for import, conversion and implementation of data. Her training includes creating and editing features, geocoding, georeferencing, database design, programming and metadata documentation, as well as map design and production.

RELEVANT EXPERIENCE

Clearway Energy, Luna Valley Solar, Fresno County, California Project mapping for cultural resource investigation.

Galehead Development, LLC, Arcadia Solar, Hancock County, Ohio Project mapping for full environmental licensing of a utility-scale solar energy facility. Work included map documents supporting the environmental CIA.

Hecate Energy, Greene and Coeymans Solar Farms, Albany and Greene Counties, New York Project mapping and impact calculations for two solar photovoltaic electric generating facilities as one of the first projects of its kind. Document production in support of submission of the Public Involvement Plan (PIP), Preliminary Scoping Statement (PSS) and Proposed Stipulations to the New York State Department of Public Service (NYSDPS) and preparation for Application Submission.

Avangrid, Lund Hill Solar, Klickitat County, Washington Extensive detailed mapping for multiple site surveys and reports, displaying site conditions and constraints.

Lendlease Energy Development LLC, Nestlewood Solar, Clermont and Brown Counties, Ohio Project mapping for full environmental licensing of an 80-MW solar photovoltaic electric generating facility proposed in Clermont and Brown Counties, Ohio. Work included posters for a Public Open House and documents supporting the filing of the Ohio Power Siting Board (OPSB) Application for a Certificate of Environmental Compatibility and Public Need.

BP, Joshua Tree Solar Project, San Bernardino County, CA. Created biological and cultural constraints figures. Created maps for field surveys and processed field data.

NextEra, Searcy Solar, White County, AR Created figures for multiple site surveys and reports, detailing site conditions and constraints including field wetland delineation and jurisdiction mapping.

NextEra, Clear Spring Ranch Solar Project, El Paso County, CO Created figures for multiple site surveys and reports, detailing site conditions and constraints.

Swinerton Builders, Kettleman Solar Project, CA Processed GPS data from site surveys and mapped cultural resource features identified. Created DPR maps and prepared agency submittals of discovered resources.

Goose Lake, City of Corcoran, and CID Solar Sites, CA Created site location and constraints figures for field surveys. Converted and analyzed archeological field data. Created internal document and client report figures.

NextEra Energy Adelanto Solar Project, San Bernardino County, CA Created site location and constraints figures for field surveys. Compiled field data and created final report figures.

FPL Genesis Solar Amendment, Riverside County, CA Created site layout plan figures for alternative route alignments.

BP Joshua Tree Solar Project, San Bernardino County, CA Created biological and cultural constraints figures. Created maps for field surveys and processed field data.

EDUCATION

Certificate, GIS, Green River College, 2005

BS, Environmental Geology, Western Washington University, 2003

AREAS OF EXPERTISE

Data gathering and spatial analysis for energy project siting

Detailed constraints mapping

Creation of online Collector projects for field crews, and subsequent post-field processing and mapping

YEARS OF EXPERIENCE

19

NextEra McCoy Solar Project, CA Created multiple figures and ran impact calculations detailing site conditions and constraints such as vegetation, wildlife and waters for site delineation and refinement. Imported and mapped field GPS data from multiple surveys to create report figures and documentation.

Cogentrix, Solar Site Selection, CA and NV Created a series of figures detailing site conditions and constraints such as groundwater basins, well data and watersheds, for multiple sites throughout southern California and Southwestern Nevada.

FPL Solar Prospecting, CA, AZ, NM, NV Responsible for data collection for prospective solar sites in California, Arizona, New Mexico and Nevada, including information on zoning, general plan, hazards, FEMA Q3 flood zones, cadastral, critical habitat and land use/land cover (LULC) at county level. Map creation for selected projects sites.

EXPERIENCE SUMMARY

Tricia Pellerin is a Senior Acoustic Engineer and Project Manager with the Boston office with a background in chemical and biochemical engineering. With more than 19 years of consulting experience, Tricia has been involved in the planning and permitting of many small and large-scale EISs. Tricia has extensive experience in assessing potential noise impacts, performing pre- and post-construction field studies, conducting acoustic modeling analyses, and performing regulatory compliance determinations for both conventional and renewable energy projects throughout the United States, Canada, and internationally. She has also been involved with conducting underwater acoustic modeling and impacts assessments with the purpose of assessing potential impacts on sensitive marine species.

RELEVANT PROJECT EXPERIENCE

AES, Somerset Solar Project, NY

Somerset Solar, LLC, a subsidiary of AES, is proposing the construction and operation of the 125 MW AC solar facility in the Town of Somerset, Niagara County, New York. Ms. Pellerin participated in the detailed acoustic analysis required as part of the New York Section 94-c regulatory process. A baseline sound survey was completed. Both construction and operational noise impacts were evaluated including construction activities at laydown areas, HDD, and noise mitigation measures needed during operation. Both Exhibit 7 and its associated Acoustic Assessment appendix were prepared for submittal to ORES.

Innergex, Paeahu Solar Project, HI

Ms. Pellerin conducted the acoustic assessment for the Paeahu Solar Project, which is a 15 MW Solar PV facility of Maui. Ambient sound measurements were conducted, and a modeling analysis evaluated construction and operational sound sources including inverters and transformers. Compliance was assessed relative to the applicable Hawaii Administrative Rule, Title 11, Chapter 46, "Community Noise Control" (HAR § 11-46) regulations.

AEUG Union Solar, LLC, Union Solar Project, OH

Ms. Pellerin supported permitting of the Union Solar Project through conducting an acoustic assessment in accordance with Ohio Power Siting Board noise criteria. A baseline sound survey was completed to document existing conditions and noise generated during project construction and operation were considered. CadnaA was used to analyze potential impacts at noise sensitive receptors and compliance was assessed relative to the applicable requirements.

Hecate Energy Greene 1 LLC, Hecate Energy Greene 2 LLC, and Hecate Energy Greene County 3 LLC, Greene County Solar Facility, NY

Hecate is proposing to construct the Greene County Solar Facility, an approximately 50-megawatt photovoltaic solar facility in Greene County New York. Ms. Pellerin consulted with NYSDPS prepared the acoustic assessment for the project. Ambient sound monitoring was completed as well as acoustic modeling of the construction and operational sound sources. Ms. Pellerin also produced Exhibit 19 and its associated appendices such as the post-construction noise monitoring plan.

Hecate Energy Albany 1 LLC and Hecate Energy Albany 2 LLC, Coeymans Solar Farm, NY

Hecate is proposing to construct the Coeymans Solar Farm a 40-megawatt photovoltaic solar facility in Albany County, New York. Ms. Pellerin consulted with NYSDPS prepared the acoustic assessment for the project. Ambient sound monitoring was completed as well as acoustic modeling of the construction and operational sound

EDUCATION

Environmental Science
Graduate Program, 2005

MESc, Chemical and
Biochemical Engineering, 2005

BESc, Chemical and
Biochemical Engineering, 2002

TRAINING

Fundamentals of Engineering
(EIT), MA, 2008

CadnaA Basic and Advanced
Seminars

Noise Control Course for
Buildings, Manufacturing
Plants, Equipment and
Products; 2006

Underwater Acoustics and
Signal Processing; 2011

Irwin Carr Consulting, dBSea
Underwater Noise Modeling
Training, 2017

OFFICE

Boston, MA

YEARS OF EXPERIENCE

19

sources. Ms. Pellerin also produced Exhibit 19 and its associated appendices such as the post-construction noise monitoring plan.

One Energy, Goose Prairie Solar Project, WA.

One Energy proposes to construct and operate the Goose Prairie Solar Project, an 80 MW solar photovoltaic project with an optional battery storage system capable of storing up to 80 MW of energy located in Yakima County, Washington. Tetra Tech prepared an acoustic assessment, evaluating potential sound impacts relative to the applicable noise regulations prescribed in the Washington Administrative Code. Modeling was conducted for operations using CadnaA and construction noise was also assessed.

Clearway Energy, Daggett Solar Power Facility, CA.

The Facility is proposed on approximately 3,500 acres of land located approximately 0.5 mile east of the town of Daggett within the County of San Bernardino. The Facility will include a utility-scale, solar photovoltaic (PV) electricity generation and energy storage facility that would produce up to 650 megawatts (MW) of power and include up to 450 MW of battery storage capacity. Noise modeling was done using CadnaA to assess construction and operational conditions.

NextEra Energy Resources, Wheatridge Solar Project, OR

Tetra Tech supported the permitting of the Wheatridge Wind Energy Facility as well as the associated Wheatridge Solar Project in in Morrow and Umatilla counties, Oregon. Tetra Tech prepared Exhibit X for submittal to ODOE, evaluating the potential noise impacts associated with the project relative to the applicable OAR Chapter 340, Division 35. Equipment included inverters, transformers as well as battery storage.

Nestlewood Solar I LLC, Nestlewood Solar Project, OH

The solar project would be an 80 MW solar photovoltaic facility in Clermont and Brown Counties, Ohio. Tetra Tech completed a comprehensive acoustic assessment including a baseline sound survey and modeling analysis to assessment compliance versus the Ohio Power Siting Board noise criteria. Ms. Pellerin also supported the project through providing expert testimony during the Ohio Power Siting Board hearing.

DUTC bn, LLC, Dutchman Solar Project, WY

The Dutchman Solar Project is proposed in Converse County, WY. And includes approximately 1,190,488 solar modules and two battery energy storage systems (BESSs), two Project substations, two operations and maintenance (O&M) buildings, and 2.6 miles of overhead 230-kilovolt (kV) transmission line. Tetra Tech conducted a comprehensive acoustic modeling analysis, predicted offsite received sound levels at noise sensitive receptors. There were actually no numerical decibel limits applicable to the project so received sound levels were reported but not evaluated relative to an acoustic design goal.

Mountain Home Solar 1, LLC, Mountain Home Solar Project, ID

Ms. Pellerin completed an acoustic modeling analysis and compliance assessment for the Mountain Home Solar Project in Elmore County, Idaho. The Project is a ground-mounted single axis tracking photovoltaic system, with a nominal capacity of up to 20 megawatts alternating current. Elmore County Zoning specifies noise requirements, so the model analyzed the interconnect and pad-mounted transformers as well as the inverters and motors. Compliance was assessed relative to the requirements and the results were presented in a technical memo.

Hawkeye Solar II, LLC, Hawkeye Solar II Project, IA

The Hawkeye Solar II Project is a proposed 120-megawatt (MW) utility scale solar facility and 75-MW battery energy storage system located in Clinton County, Iowa. The Project will be sited in an approximately 1,230-acre Project area, including easements, in a rural area located adjacent to Hawkeye I and Hatchling Solar Projects in Clinton County. CadnaA was used to evaluate potential offsite noise impacts associated with the equipment sound sources including inverters, step-up transformers, battery energy storage units, substation transformers, and PCS inverters. Received sound levels were predicted at noise sensitive receptors and presented in an acoustic assessment produced in support of the project permit application.

Avangrid Renewables LLC, Lund Hill Solar Energy Project, WA.

The Lund Hill Solar Project is a 150-megawatt solar energy within Klickitat County, Washington. CadnaA was used to analyze potential noise impacts associated with the facility at nearby noise sensitive receptors. Results were evaluated relative to the Washington noise regulations. Construction noise was also assessed, and noise mitigation measures were recommended. The analysis was compiled into a section of the overall project EIS.

EXPERIENCE SUMMARY

Ms. Sudak is a Project Manager who supports transportation evaluation and planning projects for public agencies and private clients. Her experience includes conducting traffic impact assessments and access studies, conducting corridor and parking studies, preparing traffic monitoring and functional design reports, conducting intersection improvement studies and preparing conceptual improvement plans. She is proficient in the use of Synchro, SimTraffic, AutoCAD Land Desktop, and AutoTurn software.

RELEVANT EXPERIENCE

Various Offshore Wind Projects. Responsible for the preparation of the Land Transportation and Traffic section of the Construction and Operations Plan (COP) for various Offshore Wind projects along the East Coast between South Carolina and New York.

Various Solar Facilities. Responsible for the supporting the applications for county land use permits and transportation department access permits for numerous proposed solar facilities across the United States including California, Idaho, Illinois, Indiana, Kentucky, New York, South Carolina, Washington and Virginia.

Cavalier Solar Project, Isle of Wight and Surry Counties, VA. Responsible for the preparation of a Virginia Department of Transportation land use permit application for the project. As part of this effort, Tetra Tech designed and permitted the Mt. Nebo off-site staging area.

Skipjack Solar Center, Charles City, VA. Responsible for the preparation of a Virginia Department of Transportation land use permit application for a new operations and maintenance driveway to serve POD 3 of the proposed Skipjack Solar Center.

Horse Heaven Wind Farm, Benton County, WA. Responsible for the preparation of the traffic impact assessment prepared as part of the Final Environmental Impact Assessment (FEIS) filing with the Washington Energy Facility Site Evaluation Council for the proposed 1150 MW wind, solar and battery storage project.

Cricket Valley Energy Center, Dover, NY. Senior Project Engineer responsible for evaluating temporary construction-related traffic impacts at the laydown areas needed to support peak construction workforce levels for the 1,100 megawatt (MW) natural gas power plant. Work included preparation of a traffic impact study for the State permitting of the remote laydown site of the proposed Cricket Valley Energy Center (CVEC) following the project's initial State Environmental Quality Review (SEQR) process. Identified the required site access and off-site roadway improvements and travel demand measures (TDMs) to support peak construction workforce levels (estimated at 1,140 daytime workers and 175 nighttime workers). Assisted in the permitting



Education

BS, Civil Engineering, University of Massachusetts, Lowell, Magna cum Laude, 2006

Area of Expertise

Transportation planning, traffic impact assessments

Registrations/Affiliations

Licensed Professional Engineer, Massachusetts No. 51175 (2014)

Office

Marlborough, MA

Years of Experience

15

Years within firm

9

Contact

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including filing a Perm 33 amendment with the New York State Department of Transportation (NYSDOT) for installation of a temporary traffic signal and associated roadway improvements on State Route 22 in Dover, New York.

US Air Force Aquatic Training Facility, Lackland AFB, San Antonio, TX. Senior Project Engineer for the traffic impact analysis as part of the City of San Antonio permitting process to support the peak construction activity of the US Air Force's proposed 61,000 square foot (sf) aquatic training facility which will support elite warrior training for their existing Special Warfare Training Group (SWTG) operations at the JBSA-Medina Training Annex. Conducted a qualitative assessment of existing and projected transportation conditions and identified measures to provide safe and efficient access to the site.

Camp Fire Debris Removal Operations Traffic Plan, Paradise, CA. As Senior Project Engineer assessed the traffic-related impacts of State-operated Camp Fire debris removal operations on local and state roadways in Paradise and neighboring communities, including Chico, Marysville, Oroville and Yuba City. Tetra Tech identified truck haul routes to/from six debris disposal sites and potential mitigation measures at key intersections within a 50-mile by 110-mile study area to minimize impacts from the removal of millions of tons of debris.

I-90/Allston Multimodal Project, MassDOT Highway Division, Allston/Brighton, MA. Senior Project Engineer for the \$1.9B I-90/Allston Multimodal Project. Transportation planning has included analysis of approximately 20 intersections, highway ramps and I-90 mainline operations; development and testing of ramp and local street network alternatives; coordination with CTPS modeling efforts; and preparation of a traffic analysis to be included in an Environmental assessment (EA). The extensive traffic analysis has considered multiple options to realign the highway. Current concepts include the design of ten new signalized intersections and five reconstructed signalized intersections. This project will reconfigure the highway to more closely follow the general direction of the Massachusetts Turnpike, thereby improving connections on the Turnpike, increasing safety and accessibility for all modes, and enabling future development of the former rail yard. Responsibilities include developing existing and future year intersection volumes based on CTPS modeling efforts and conducting capacity analyses using Synchro and SimTraffic software at all existing and proposed study intersections to evaluate proposed concepts.

Thomson Place Network Analysis, Boston Redevelopment Authority, Boston, MA, 2019. Senior Project Engineer for a transportation network analysis and preparation of design modifications to connect Thomson Place, a private way open to public travel, to Seaport Boulevard, near downtown Boston. Ms. Sudak was responsible for the development of future year traffic volume projections for a 10-year design horizon which included traffic associated with 15 area development projects totaling more than 7 million square feet of commercial development, 2,400 hotel rooms and 3,300 residential units. Twelve intersections in the Seaport District were modeled using Synchro to study traffic operations during weekday morning and afternoon peak hours based on our future year traffic volume projections. Design includes bicycle and parking accommodations and traffic signal improvements along Thomson Place and the surrounding network between Congress Street and Seaport Boulevard.

Rutherford Avenue/Sullivan Square Design Project, Boston, MA. Project Engineer for the 1.5-mile urban corridor reconstruction of Rutherford Avenue in Boston. Responsible for developing future traffic volume projections at study area roadways and intersections in support of the traffic analyses for the project.

MassDOT Highway Division, Highway Safety Improvement Projects (HSIP). Project Engineer for Tetra Tech's on-call contract for the evaluation of high-crash intersections and roadway corridors. The project involved conducting road safety audits of various locations, facilitating on-site meetings with local safety officials, and preparing summary reports. Assignments include audits in Leominster, Sterling and Gardner. Responsibilities included leading a team of local and state engineers, safety official and planners to identify safety issues and develop a range of mitigation measures includes those that could be implemented in the short term with little cost.

Village Street Traffic Calming Feasibility Study, Town of Medway, MA. Senior Project Engineer for the evaluation of potential traffic calming measures along Village Street (between Holliston Street and Sanford Street) to address the Town of Medway's concerns regarding travel speeds and safety in this area. As part of this

assessment, Tetra Tech documented existing traffic signage and pavement markings and reviewed data related to travel speeds, crashes and traffic volumes to identify any existing safety and operational deficiencies. Tetra Tech then developed several conceptual roadway improvement plans including roadway signage, pavement marking, geometric and traffic control modifications for the Town's consideration.

One Post Office Square Redevelopment, Boston. Senior Project Engineer for the traffic impact analysis to support the redevelopment One Post Office Square in downtown Boston. The project includes changes to the 41-story high rise office building and replacing the existing traditional parking garage with a state-of-the-art automated puzzle parking system. In support of the Expanded Project Notification Form (EPNF) filing as part of the City of Boston Article 80 process, Ms. Sudak evaluated existing and projected transportation operations, identified measures to provide safe and efficient access and minimize potential project-related traffic impacts on the surrounding area roadway network. Services also included assisting with review by the Civic Design Commission, and leading approvals of the Public Improvement Commission, Climate Resilience Checklist, and finalizing the Transportation Access Plan Agreement (TAPA) with the BTM. Helped secure the parking freeze permit modification for the parking improvements from the Boston Air Pollution Control Commission (BAPCC). Assisted the client during construction with obtaining the Boston Public Improvement Commission (PIC) approval of intersection improvements and bike rack parking design.

The Langham Boston Hotel Renovation Project. Senior Project Engineer for the traffic impact analysis included in the Project Notification Form (PNF) filing as part of the City of Boston Article 80 process to support the renovation and refurbishment of the historic Langham Boston Hotel building, a nine-story, 317-room hotel in downtown Boston. Conducted a qualitative assessment of existing and projected transportation conditions, identified measures to provide safe and efficient access and expanded upon the existing Transportation Demand Management (TDM) program at the hotel property to minimize potential project-related traffic impacts on the surrounding area roadway network.

Center 128 Project, Normandy Real Estate Partners, Needham, MA. Senior Project Engineer responsible for traffic impact analyses required to support the project's local and State permitting (MassDOT and MEPA) processes including the August 2015 Supplemental Draft Environmental Impact Report (DEIR) and the 2019 MassDOT State Highway Access Permit Modification to include expansion of one of the proposed hotels. In addition to Center 128, the SDEIR traffic impact analyses considered traffic associated with more than 700 residential units and 325,000 sf of background development and reassignment of traffic through the Needham Crossing business and residential park due to the new Kendrick Street I-95 interchange. The currently approved master plan for the 40-acre Center 128 campus includes 19,000 sf of retail space, 308 hotel rooms, 390 residential apartment units and more than 1 million square feet of commercial office space, including The Kendrick residential apartment complex, Trip Advisor World Headquarters, a Marriott Residence Inn, Shark Ninja Headquarters, NBC and Comcast Sports New England broadcast studios and offices.

EXPERIENCE SUMMARY

Ms. Thatcher is an engineer in Tetra Tech's Transportation Group. She is responsible for the design work of a variety public and private transportation projects. Tasks include developing designs of roadways and intersections, designing AutoTURN radii for vehicle turning paths, laying out drainage systems, planning traffic signal systems, development of signing and pavement marking plans as well as cost estimates and preparation of design reports. Ms. Thatcher is proficient in AutoCAD, ArcGIS, and AutoTURN and has experience managing disaster relief and recovery efforts.

RELEVANT EXPERIENCE

Various Solar Facilities. Responsible for the supporting the applications for county land use permits and transportation department access permits for numerous proposed solar facilities across the United States including California, Indiana, Kentucky, New York, Washington and Virginia.

Horse Heaven Wind Farm, Benton County, WA. Responsible for the preparation of the traffic impact assessment prepared as part of the Final Environmental Impact Assessment (FEIS) filing with the Washington Energy Facility Site Evaluation Council for the proposed 1150 MW wind, solar and battery storage project.

Camp Fire Debris Removal Operations Traffic Plan, Paradise, CA, February 2019 to October 2019. Traffic Engineer, assisting with the assessment of traffic-related impacts of State-operated Camp Fire debris removal operations on local and state roadways in Paradise and neighboring communities, including Chico, Marysville, Oroville and Yuba City. Tetra Tech has been asked to identify truck haul routes to/from six debris disposal sites and potential mitigation measures at key intersections within a 50-mile by 110-mile study area to minimize impacts from the removal of millions of tons of debris. Specifically, Ms. Thatcher is assisting with the preparation of conceptual roadway improvement plans, the preparation of conceptual construction mitigation plans and analyzing existing conditions and operations of the regional roadway system using drone observations.

One Post Office Square Redevelopment, Boston, 2017 to Present. Supporting senior staff with the traffic impact analysis included with the Expanded Project Notification Form (EPNF) filing as part of the City of Boston Article 80 process to support the redevelopment of One Post Office Square, a 41-story office high rise in downtown Boston. Assisted with evaluating existing and projected transportation operations and identifying measures to provide safe and efficient access and minimize potential project-related traffic impacts on the surrounding area roadway network.

Langham Boston Hotel, Dyer Brown Architects, Boston MA, 2019 to 2023. Helped perform a qualitative assessment of existing an projected transportation conditions, identifying measures to provide safe and efficient



Education

BS, Civil Engineering,
University of Connecticut,
2017

Area of Expertise

Roadway and intersection
design

Registrations/Affiliations

Women's Transportation
Seminar, Boston Chapter

American Society of Civil
Engineers

Boston Society of Civil
Engineers Section

Institute of Transportation
Engineers

Young Professionals in
Transportation

Office

Marlborough, MA

Boston, MA

Years of Experience

6

Years within firm

6

Contact

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access, and expanded the existing Transportation Demand Management (TDM) program to minimize potential project related traffic impacts on the surrounding roadway network.

Thomson Place Network Analysis and Design, Boston, Boston Planning & Development Agency, MA, 2018 to 2019. Engineer assisting with evaluation of connecting a private way to Seaport Boulevard. Assisted senior staff in the development of several conceptual roadway improvement plans. Assisted with transportation network analysis and preparation of design modifications to connect Thomson Place, a private way open to public travel, to Seaport Boulevard, near downtown Boston. Design includes bicycle and parking accommodations and traffic signal improvements along Thomson Place and the surrounding network between Congress Street and Seaport Boulevard.

On-Call Engineering and Support Services, City of Somerville, MA, 2022 to 2023. Helped develop a redesign of select sections of roadway and sidewalk, including Complete Streets improvements. Provided wider sidewalks and pedestrian friendly traffic islands/safe zones, adding dedicated vehicle and bicycle lanes to be located within the current rights-of-way. Provided field assessment, construction detail review and development and prepared a preliminary cost estimate and technical specifications.

On-Call Design and Review Services, Town of Medway, MA, 2022 to 2023. Traffic reviews related to impacts to transportation operations and safety on the surrounding area roadways and intersections. Developed future traffic volume projections, conducted sight distance analysis of proposed site driveways, and identified traffic mitigation measures to off-set transportation related impacts.

Traffic Calming Feasibility Study, Medway, MA, 2019 to 2019. Tetra Tech reviewed the Town of Medway's safety concerns adjacent to the Town Hall along Village Street (from Holliston Street to Sanford Street). Assisted senior staff with identifying potential traffic calming measures for the Village Street corridor, analysis of existing conditions and traffic volumes, and the creation of various conceptual roadway improvement plans.

Beaver Street Two-Way Conversion Feasibility Study, Milford, MA, 2018 to 2019. Tetra Tech evaluated the feasibility of converting Beaver Street to two-way traffic flow as part of the proposed development of four parcels along Beaver Street. Assisted senior staff in evaluating existing conditions, developing future year traffic volume projections and the development of various conceptual roadway improvement plans.

Rutherford Ave/Sullivan Square, City of Boston Transportation Department, Charlestown, MA, 2017 to 2020. Transportation Engineer for planning and urban design services for the City of Boston's high-profile plan for the reconstruction of Rutherford Avenue from Sullivan Square to City Square in Charlestown. The approximate 1.5-mile corridor includes several key connections to the regional highway system, two MBTA subway stations and large areas of industrial lands adjacent to the corridor that are primed for redevelopment. Modeled network improvements and concepts of approximately 30 intersections and the development of new access and circulation patterns for bus routes using the Sullivan Square MBTA station.

Highway Safety Improvement Projects (HSIP), MassDOT Highway Division, Merrimack Valley Region, MA, 2017 to 2019. A Transportation Engineer assisting with the evaluation of high-crash intersections and roadway corridors. The project entails conducting road safety audits of various locations, facilitating on-site meetings with local safety officials, and preparing recommendation reports. Current assignments include two audits in North Andover and Haverhill, and the design of improvements to the Main Street corridor in Haverhill. Also provided services for road safety audits in Pittsfield and on I-290 in Auburn/Worcester.

Longfellow Bridge Rehabilitation Project, STV/MassDOT Highway Division, Boston/Cambridge, MA, 2016 to 2018. Transportation Engineer for the Longfellow Bridge Rehabilitation Design/Build Project, as a subconsultant to the White-Skanska-Consigli Joint Venture. Responsible for designing new signage and pavement marking plans for the site as well as correcting line work for the 75% design package submission. The bridge carries 90,000 train passengers and 30,000 vehicles, bicyclists and pedestrians daily between Boston and Cambridge.

Sign and Pavement Markings, MassDOT, Fall River to Randolph, MA, 2018. Transportation Engineer responsible for completing line work corrections, creating signs through SignCAD, back checking sign and pavement marking details throughout project and preparing the sign and pavement marking estimate for the PS&E submission of the project.

Disaster Relief Assistance, Cape Coral, FL, 2017. Project manager and operations manager for the disaster relief efforts after hurricane Irma in the city of Cape Coral, Florida. Responsible for debris management efforts in the city of Cape Coral, including managing collection monitoring equipment, training new staff, running a 50 person staff of debris monitors, processing staff timesheets, inputting collection data, performing an audit on the collection data daily, attending bi-weekly county meetings, managing contractors collection process, performing daily staff safety meetings, conducting equipment safety inspections daily, and maintaining a health and safety plan on site.

Disaster Relief Assistance, Charlotte County, FL, 2017. Oversaw the site operations for Charlotte County, Florida, including the operations of the sites throughout the Cape Coral, Charlotte County, Naples and Fort Meyers areas. Responsible for equipment inventory and tracking of supplies, data processing and auditing, monitor and staff training, and driving between sites to ensure they had needed supplies and staff.

Route 28A/151 Intersection Reconstruction, MassDOT Highway Division, Falmouth, MA, 2018. Project engineer assisting in the design of intersection improvements and related work at the intersection of North Falmouth Highway (Route 28A) and Nathan Ellis Highway (Route 151) in Falmouth. This intersection is considered a high crash location. The Scope of Work runs from concept through construction; to date, Tetra Tech has completed a Road Safety Audit (RSA) and participated in public meetings with MassDOT, the Town of Falmouth, the Cape Cod Commission, and other interested parties and stakeholders. Helping with the preparation of conceptual alternative plans, responsible for preparing estimate and CPE and calculating paint and sign counts.

Route 18 Corridor Widening, MassDOT Highway Division, Abington and Weymouth, MA, 2017 to 2019. Transportation Engineer responsible for correcting amendments and adding conforming statements from MassDOT's requested changes for the widening of four miles of Route 18 from West/Middle Street to Route 139. Responsible for preparing and compiling grading, utility, and drainage plans and contract documents. The project includes widening Route 18 from two travel lanes to four, intersection improvements, traffic signal upgrades, access management, pedestrian and bicycle accommodation, and environmental impact mitigation including noise wall investigations, storm water management, retaining walls, and maintenance of traffic.

On-Call Statewide Stormwater Discharge, MassDOT Highway Division, 2017 to Present. Project Engineer for a multi-year, on-call contract assisting MassDOT to comply with the statewide National Pollutant Discharge Elimination System (NPDES) storm water permit for discharges of highway runoff to impaired waters. Also included in the scope of services is ongoing technical support to compile documentation of Best Management Practices (BMPs) performance for reporting to the EPA. Provided services at Lake Cochituate, Nashua River, Fort Pond, Middle River and Grove Pond.

I-93 and Route 110/Route 113 Interchange Reconstruction Project, MassDOT Highway Division, Methuen, MA, 2017 to 2018. Transportation Engineer for this interchange reconstruction design project responsible for preparing and revising RFI submission for project. The scope included profiles, grading and horizontal alignment for six new ramps, widening I-93, and relocating Route 113/Route 110 in a new alignment passing under the existing I-93 embankment. Design also included new and modified highway and local roadway drainage, pavement design, and coordination with complex traffic demands during construction.

Route 13 Corridor Improvement, MassDOT Highway Division, Leominster, MA, 2017 to 2020. Transportation engineer for a corridor improvement project on Main Street that includes six signalized intersections that will be coordinated by a closed loop computerized traffic control system. Other elements include box widening to facilitate lane use modifications, on-street bicycle lanes on Hamilton Street, and pedestrian improvements providing connectivity to the North Leominster Commuter Rail parking garage.

Route 1/Chestnut Street Intersection Improvements, MassDOT Highway Division, North Attleboro, MA.

Engineer for this intersection improvement project. Tetra Tech is providing design and construction phase services, including a safety improvement study, alternatives analysis, and traffic signal design, at this high-crash location. Responsible for completing line work corrections for the plans and specs for the PS&E submission. The preliminary design includes exclusive left turn lanes on Route 1 to reduce turning conflicts, ADA compliant sidewalk and pedestrian ramp improvements and a new traffic signal providing more efficient operations.

Engineering, Permitting and Survey, YMCA of Metro North, Lynn, MA. Responsible for creating submission package for project, including printing and binding sheet set plans and special provision booklets. Checked corrections made throughout project to ensure correct.