

GIS Mapping & ANALYSIS

Statement of Qualifications

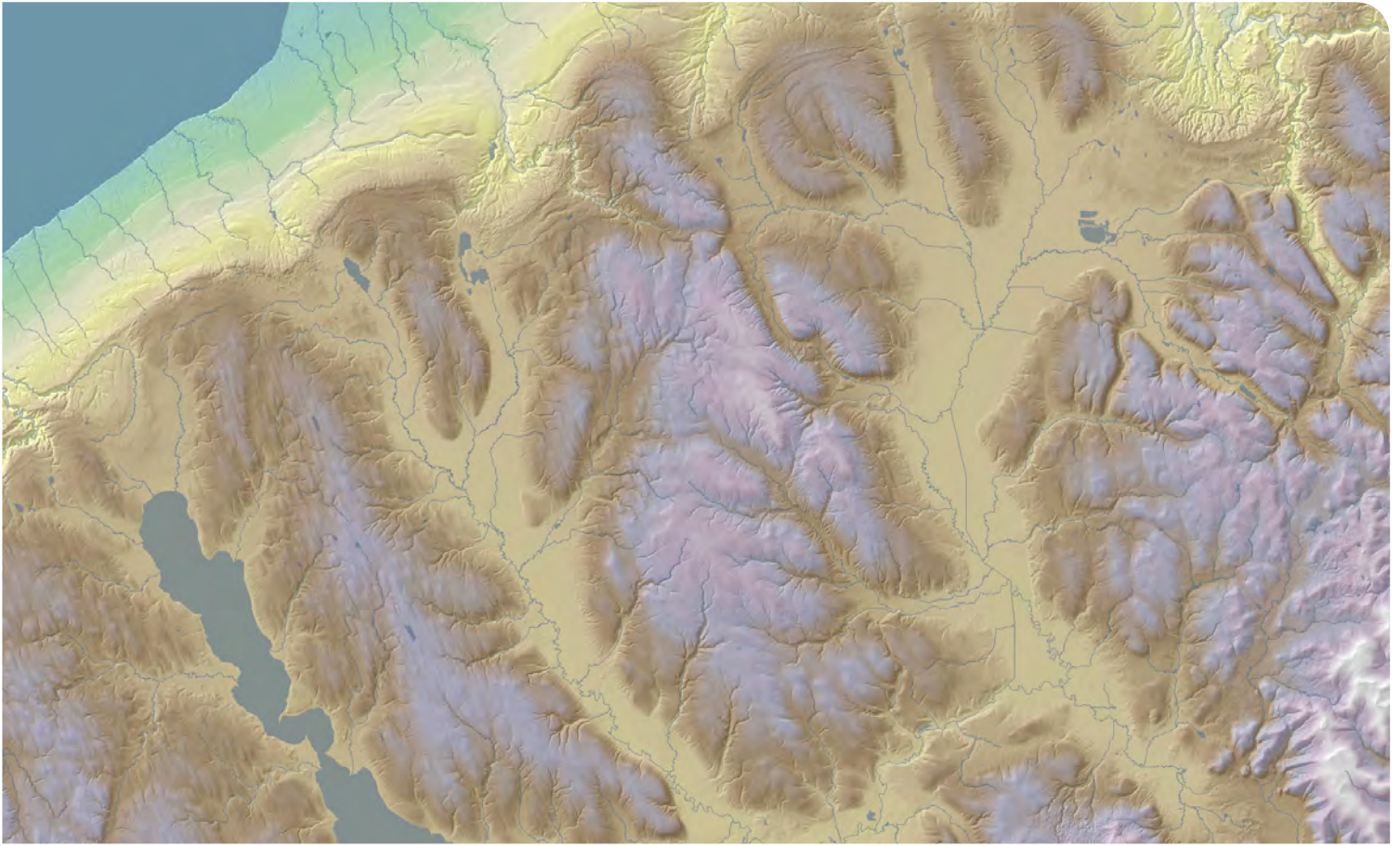
**Environmental Design & Research,
Landscape Architecture, Engineering & Environmental Services, D.P.C.**

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GIS Mapping & Analysis Services

The use of Geographic Information Systems (GIS) for the management, analysis and presentation of project spatial and environmental data has become an invaluable tool in all land planning and development endeavors. EDR's staff of mapping and computer graphics experts provide specialized mapping and analysis services of site features using orthoimagery and data available for natural, physical and cultural resources. We overlay environmental features on project maps to assess project alternatives, evaluate project impacts, guide facility siting, and prepare cartographic displays of project concepts. EDR has specialized expertise in applying GIS in visual impact analysis and viewshed mapping.

Our GIS Mapping & Analysis Services Include:

- GIS Data Management
- GIS/GPS Field Data Collection
- Mapping & Cartography
- Viewshed Analysis
- Project Layout & Site Design
- Environmental Permitting Support
- Site Plans & Municipal Applications



EDR GIS Mapping & Analysis Staff



Patrick J. Heaton, RPA, Principal is a Registered Professional Archaeologist (RPA) with more than 20 years of experience managing and directing cultural resources (i.e., archaeological and historic sites) compliance, environmental permitting, and historic preservation projects, and meets the Qualifications for the Secretary of the Interior's Standards for Archaeology and Historic Preservation (per 36 CFR 61). His primary areas of technical expertise include archaeology, cultural resources management, visual impact assessment, cultural resources mitigation, and environmental permitting compliance and strategy, including State Historic Preservation Office (SHPO) consultation, Section 106 of the National Historic Preservation Act, the National Environmental Policy Act (NEPA), and the New York State Environmental Quality Review Act (SEQRA). Patrick is on the Board of Directors of the New York Archaeological Council and formerly served on the Village of Fayetteville Historic Preservation Commission and Board of the Preservation Association of Central New York.

Lisa Young, GIS Services Manager, has more than 15 years of professional experience in GIS-based data collection/management, analysis, and cartography. She leads an in-house team of GIS professionals who provide stand-alone GIS services as well as internal support to each of EDR's disciplines. Lisa specializes in complex GIS analysis and cartographic tasks and has developed and oversees implementation of EDR's internal GIS data management and mapping protocols. She is proficient in ESRI's ArcGIS software, including spatial analyst tools. As the GIS Services Manager with EDR, Lisa's responsibilities include standardizing GIS work flows and adapting them to unique projects and/or datasets, mentoring and overseeing professional development of GIS staff, QA/QC of GIS deliverables, research and development of new or expanded GIS services, management of stand-alone GIS projects, and internal coordination of GIS-related project needs and deadlines.



Brian Frantz, GISP, GIS Analyst, he has more than 18 years of progressive professional geospatial experience in both the public and private sectors. He has been a certified Geographic Information Systems Professional (GISP) for 10+ years. His primary skills include GIS mapping, data creation, geospatial problem-solving & analysis, web-map and web app creation, GPS data collection and GIS software training. Brian is proficient with ESRI's ArcGIS desktop software (ArcMap and ArcGIS Pro), ArcGIS Online (including Collector, Survey 123, etc..) and Trimble GPS and Pathfinder Office.

Kelly Montague, GIS Analyst, has more than 5 years of professional experience in cartography, geospatial analysis, graphic design, and environmental studies. Kelly specializes in visualizing spatial and non-spatial data and providing effective and well-designed solutions to complex problems. She works as part of an in-house team of GIS professionals to provide quality map figures and graphics to each of EDR's disciplines. She is proficient with ESRI ArcGIS (Desktop, Online, and Pro) as well as Adobe Creative Suite (Ai, Ps, Id) and MAPublisher. Kelly's responsibilities include geospatial data analysis and maintenance, GIS figure production, development of graphic standards across client deliverables, and providing creative and comprehensive solutions and designs to all projects in EDR's large body of work.





Gordon Perkins, Senior Project Manager - Visualization, has over 18 years of professional experience. Gordon is one of the leading expert consultants in Visualization and Visual Impact Assessment in the Northeast and is well known to many of our clients and colleagues in the renewable energy industry. Gordon has extensive expertise in digital graphics and uses 2-D and 3-D software applications to create visual simulations and effectively communicate design concepts. He has conducted research and fieldwork involving riparian restoration design and implementation. Gordon is also a UAV/drone pilot and uses drones to create 3-D architectural models of historic buildings.

Lindsay Donahoe, Senior Environmental Analyst, has over 8 years of experience. She has extensive experience with State Environmental Quality Review (SEQR) and National Pollution Discharge Elimination Systems (NPDES) applications, water quality analyses and monitoring, development and calibration of a hydrologic model of the City of Rochester storm sewer system using PCSWMM – as well as ArcGIS technologies. Lindsay is responsible for literature review/research in support of environmental analysis and report writing; correspondence with regulatory agencies (including federal, state and local officials); preparation of reports and associated figures, drawings, and photologs; analyzing and quantifying potential environmental impacts using GIS and/or AutoCAD; understanding relevant environmental regulations; preparing New York State and Ohio Siting Board applications; and keeping abreast of regulatory changes.



Jacob Runner, Environmental Project Manager, has over 5 years of professional experience. He has completed the Army Corps of Engineers Wetland Training Program, the New York State Department of Environmental Conservation (NYDEC) Erosion and Sediment Control Training and is a Geographic Information Systems (GIS) Specialist. Jacob's expertise includes a range of ecological and fisheries fieldwork, applied use of GIS, and environmental impact analysis and associated document preparation. Jacob is responsible for conducting environmental review, impact analysis, and permitting; proficiency in multiple permitting regulations and requirements, such as the New York State Environmental Quality Review Act, Article VII and Article 10 of the New York Public Service Law, and state and federal wetland regulations; analyzing and quantifying potential environmental impacts using GIS and/or AutoCAD; and consulting with regulatory personnel.

Greg Redling, Environmental Analyst, has over 5 years of professional experience in GIS-based applications. His experience includes data collection, database management, data analysis, and cartography. In previous capacities he was in charge of managing organizational GIS and developing data libraries and protocols for fellow staff. Greg is also experienced in property monitoring, conducting natural resources and ecological surveys, writing of technical documentation and reports, environmental permitting and wetland delineations. Greg is proficient in ESRI's ArcGIS software, including ESRI's ArcGIS Online suite of mobile apps. Greg's responsibilities include drafting of technical reports, memos and maps to support EDR renewable energy and transmission projects, wetland delineation field work and data collection, development of large maps, figure sets and exhibits for Article 10 projects, and building web maps and forms for use by field staff.





FIRM OVERVIEW

EDR is a woman-owned, award-winning, and multi-disciplinary land planning, design, engineering and environmental consulting firm founded in 1979. Our staff is comprised of highly qualified professionals who specialize in landscape architecture, civil engineering, community planning, environmental regulatory compliance, ecological and cultural resources management, graphic communication, and geographic information systems mapping and analysis.

Our mission is to make places better for people and for the environment by perpetually striving for balance – the balance between our client's needs and the community's satisfaction, the balance between immediate results and long-term viability, and the balance between respect for the natural environment and delivering the most relevant impact on people's lives. Our method for achieving this is a "resource-based approach" that considers the needs of our client, the community, and the environment to create realistic and long-lasting solutions.

Our practice areas include:

LANDSCAPE ARCHITECTURE

ENVIRONMENTAL PERMITTING
& ECOLOGICAL RESOURCE
MANAGEMENT

COMMUNITY PLANNING

CULTURAL RESOURCES

CIVIL ENGINEERING

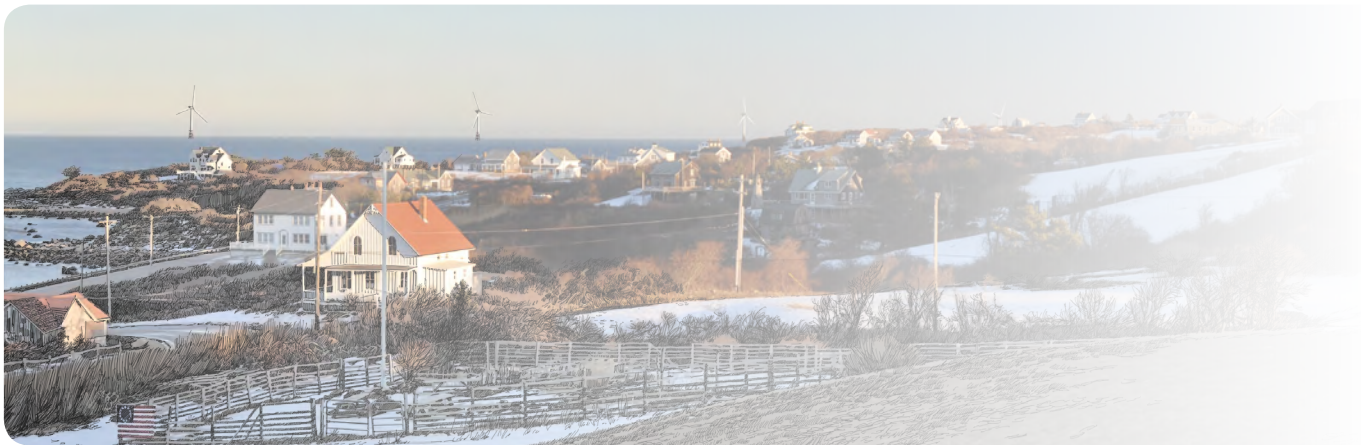
WATER & WASTEWATER
ENGINEERING

VISUALIZATION

STRUCTURAL ENGINEERING



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SERVICES

ENVIRONMENTAL PERMITTING & ECOLOGICAL RESOURCE MANAGEMENT:

- Local, State and Federal Regulatory Compliance & Permitting
- Due Diligence and Compliance Reviews
- Local Site Plan Applications/Special Use Permits
- Environmental Impact Statements (SEQRA, NEPA)
- SPDES and NPDES
- Utility Licensing Studies (Article VII, Part 102)
- Visual Impact Assessment
- Wetland Delineation, Permitting, Mitigation Monitoring
- Wildlife and Botanical Studies
- Threatened and Endangered Species Surveys and Consultation
- Archeological and Historic Resources Surveys
- Natural Resource Management Plans
- Construction Observation and Mitigation Monitoring
- GIS Mapping & Analysis

VISUALIZATION:

- Visual Impact Assessment
- Offshore Wind Visibility and Visual Impact Specialists
- Solar Energy Development Assessment
- Expert Witness Testimony
- High Resolution Photo Simulations & Renderings
- Precision 3D Models & Animations
- Viewshed (ZVI) & Line of Sight Analysis
- Unmanned Aircraft Systems Survey
- Videography & Photography
- Lidar analysis and processing
- Shadow Flicker Analysis
- Public Outreach/Marketing Presentation Materials
- Architectural and Landscape Architectural Design Visualization

LANDSCAPE ARCHITECTURE:

- Site Analysis and Design
- Historic Landscape Assessment
- Recreational Trails & Parks
- Waterfront Planning and Design
- Site Grading
- Drainage & Stormwater Management
- Vehicular/Pedestrian Transportation Systems
- Construction Inspection & Administration
- Golf Course Architecture
- Irrigation System
- Stream and Wetland Restoration Design

CIVIL ENGINEERING:

- Flood Plain, and Stormwater Management
- Site Structural Design
- Erosion and Sediment Control
- Stormwater Pollution Prevention Plans and Inspections
- Water Distribution and Sanitary Sewer Collection Systems
- Vehicular/Pedestrian Transportation Systems
- Irrigation System
- Stream and Wetland Restoration Design
- Construction Inspection & Administration

WATER & WASTEWATER ENGINEERING:

- Wastewater Collection, and Treatment System
- Water, Distribution, and Treatment Systems
- Construction Management Services
- Capital Planning, Permitting, and Funding Assistance
- Pump Station Design
- Infiltration/Inflow & CSO Assessment

COMMUNITY PLANNING:

- Resource identification and assessment
Historic, Cultural, & Environmental
- Infrastructure
- Zoning and land use regulations
- Socioeconomic analysis
- Build-out analysis
- Community outreach
- Visioning workshops
- Community character analysis
- Master plans
- Visualization of alternative planning concepts
- Community specific recommendations
- Prioritized action items
- Implementation strategies

CULTURAL RESOURCES:

- Archeological Surveys & Site Investigations
- Historic/Architectural Resources Surveys
- National Register of Historic Places Evaluations & Nominations
- Historic Preservation Planning
- State Historic Preservation Office & Native American Consultation
- Avoidance & Mitigation Strategies for Archeological & Historic Sites
- Visual Impact Assessment
- Excavation Oversight & Construction Monitoring
- Unanticipated Discovery Response

OFFICE LOCATIONS:

- Syracuse, NY
- Albany, NY
- Rochester, NY
- Hershey, PA





LANDSCAPE ARCHITECTURE

EDR landscape architecture is the art and science of analysis, planning, design, management, preservation and rehabilitation of the land. EDR is an award-winning land planning and design firm. Our principals and staff of registered and LEED® -certified landscape architects and designers have decades of professional experience creating and implementing projects that integrate natural and cultural resources. We have been “green” long before the term crept into our everyday vocabulary. As dedicated practitioners of sustainable design, edr considers the natural systems of a site a guiding principal for planning and development. Planning and design specialties include: parks and greenways, commercial developments, private estates, streetscapes, waterfront development, bikeways, athletic facilities, art in the landscape, monuments, interpretive signage, historic landscapes, ecological site restorations for private, institutional and municipal clients, and sustainable campus landscapes.

SERVICES:

- Garden Design
- Site Analysis & Design
- Recreational Trails & Parks
- Waterfront Planning & Design
- Aesthetic Grading/Landform Design
- Drainage & Stormwater Management
- Vehicular/Pedestrian Transportation Systems
- Construction Observation
- Golf Course Architecture
- Irrigation Systems
- Stream and Wetland Restoration Design



CONTACT:

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ENGINEERING

EDR licensed professional engineers provide the planning, design and construction services necessary to provide public and private sector clients the support they need. What differentiates our engineering team is they are members of an integrated team of landscape architects, environmental scientists, and planners. As a result, from site improvements to utility design to roadway construction, we address infrastructure needs while demonstrating stewardship to the aesthetic, cultural and natural environment.

SERVICES:

Water and Stormwater Systems:

- Computer Modeling
- Infrastructure & Utility Assessment
- Wastewater Collection Systems
- Natural Resources Conservation and Restoration
- Water Distribution Systems
- Drainage and Stormwater Management

Water/Wastewater:

- Wastewater Collection and Treatment Systems
- Water Distribution, and Treatment Systems
- System Modeling and Analysis
- Construction Administration and Management
- Capital Improvement Planning
- Combined Sewer System Assessments
- Design-Build Management
- State, Federal, and Local Funding Assistance
- Environmental Review (NEPA, SEQR) and Permitting

Site Improvements:

- Boat Launches and Docking
- Sports Fields
- Parking and Convenience Facilities
- Shore Line Protection
- Waterfronts
- Retaining Walls

Circulation Systems:

- Roadway Design
- Road Rehabilitation/Construction
- Pedestrian/Bicycle Improvements

Construction Services:

- Construction Observation
- SWPPP Inspections
- Resident Engineering
- Design Build Partnerships



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ENVIRONMENTAL REGULATORY & ECOLOGICAL SERVICES

EDR provides strategic regulatory consulting services to industrial, government, municipal, and private clients. We provide a range of expertise and specialized services, which emphasize environmental regulatory compliance, natural resource management, and environmental impact assessment. Our firm has an extensive background in local permit strategies, permitting under the Clean Water Act (Sections 401, 404), and a strong knowledge of the New York State Environmental Quality Review Act (SEQRA) and the National Environmental Policy Act (NEPA).

We assist our clients in identifying specific regulatory responsibilities and provide technical knowledge and experience required to successfully navigate through State and Federal permit processes. We have an established positive reputation with relevant agencies. We often assist clients in formal and informal negotiations on permit terms, monitoring requirements, and identifying mitigation obligations.

EDR Environmental and Regulatory Services Include:

- Local, State and Federal Regulatory Compliance and Permitting
- Due Diligence and Compliance Reviews
- Impact/Regulatory Analysis for NEPA, RCRA, CERCLA, NPDES, OSHA, and other Federal Regulations
- Local Site Plan Applications/Special Use Permits
- Environmental Impact Statements
- SPDES and NPDES
- Utility Licensing Studies
- Visual Impact Analysis
- Wetland Delineation, Permitting, Mitigation Monitoring
- Wildlife and Botanical Studies
- Threatened and Endangered Species Surveys and Consultation
- Archeological and Historic Resources Surveys
- Natural Resource Management Plans
- Construction Observation and Mitigation Monitoring



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VISUAL & GRAPHIC COMMUNICATION

The ability to see a project before it is built is invaluable during the design and approval phase of a development endeavor. **EDR's** Visualization Services and products provide the foundation upon which design intent can be effectively portrayed to the public, and allows for the qualitative and quantitative assessment of the potential impacts that a project may have on a local landscape. **EDR** provides a broad range of visualization, visibility assessment, and visual impact analysis services.

EDR's multimedia computer graphics experts have the combined experience to convey any development project; from a small design detail to full build-out of a large-scale power project. By applying expertise in photography, three dimensional model development, computer-aided drafting, and geographic information system analysis, **EDR** creates not only convincing photo-realistic simulations, but also technically accurate depictions of the proposed project. After 20 years producing accurate and defensible simulations, we still rely on the basic foundations of the simulation process while taking advantage of ever-evolving technological advances. With this approach, our experts are among the leading visualization specialists in the Northeastern United States.

Taking visualization to a higher level, **EDR** prepares comprehensive visibility assessments and visual impact analyses to define and quantify the potential visual effect of a proposed development on the local landscape and community character. These assessments are conducted by licensed landscape architects, which promotes legal defensibility and allows for expert witness testimony in support of **EDR's** conclusions.

SERVICES:

- Inventory and characterization of aesthetic resources
- Field verification of project visibility (ballooning)
- Viewshed and line-of-sight analysis
- High resolution photo simulations and renderings
- 2D and 3D precision models and animations
- Video production and editing
- Illustration graphics
- Expert witness testimony
- Visibility Assessment/Visual Impact Analysis Reports



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CULTURAL RESOURCES MANAGEMENT

The primary goal of cultural resource management is to identify, evaluate, and mitigate the potential effects of a proposed project on archeological sites and historic properties.

EDR provides strategic regulatory compliance services to help our clients navigate the requirements of National, State and Local historic preservation laws, such as Section 106 of the National Historic Preservation Act (NHPA), Section 14.09 of the New York State Parks, Recreation & Historic Preservation Law, and the New York State Environmental Quality Review Act (SEQRA).

Our staff includes Registered Professional Archeologists (RPAs) and cultural resources analysts who meet the Secretary of the Interior's Standards for Historic Preservation Projects (per 36 CFR Part 61). Core areas of expertise include archeology, architectural history, and preservation planning supported by **EDR's** experienced team of environmental regulatory compliance and Geographic Information Systems (GIS) specialists, landscape architects, community planners, and visualization professionals.

EDR's CULTURAL RESOURCES SERVICES INCLUDE:

- Archeological Surveys & Site Investigations
- Historic/Architectural Resources Surveys
- National Register of Historic Places Evaluations & Nominations
- Historic Preservation Planning
- State Historic Preservation Office (SHPO) & Native American Consultation
- Avoidance & Mitigation Strategies for Archeological & Historic Sites
- Visual Impact Assessment
- GIS Data Management & Analyses
- Excavation Oversight & Construction Monitoring
- Unanticipated Discovery Response



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SERVICES

COMMUNITY PLANNING

Comprehensive planning is an important community-centered process, which culminates with a plan for future growth. **EDR** believes it is essential to engage, listen, and respond to the collective voice of the community while developing comprehensive plans. **EDR** is dedicated to future place making for each community. Special focus is placed on local resources and embracing each community's unique assets. Our comprehensive planning strategies are action-oriented, with achievable recommendations for healthy and sustainable growth.

SERVICES:

- Resource identification and assessment
 - Historic
 - Cultural
 - Environmental
- Infrastructure
- Zoning and land use regulations
- Socioeconomic analysis
- Build-out analysis
- Community outreach
- Visioning workshops
- Community character analysis
- Master plans
- Visualization of alternative planning concepts
- Community specific recommendations
- Prioritized action items
- Implementation strategies



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