

# DATA CENTERS

## Statement of Qualifications

### Environment & Ecology

- Air Quality
- Noise
- Wetlands, Cultural Resources, T&E Species
- Environmental Site Assessments

### Sustainability

- Renewable Energy
- Green Roofs
- Biodiversity
- Environmental Impacts
- Water Supply Analysis

### Geotechnical Engineering

- Geotechnical
- Geostructural

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# GZA AND DATA CENTERS

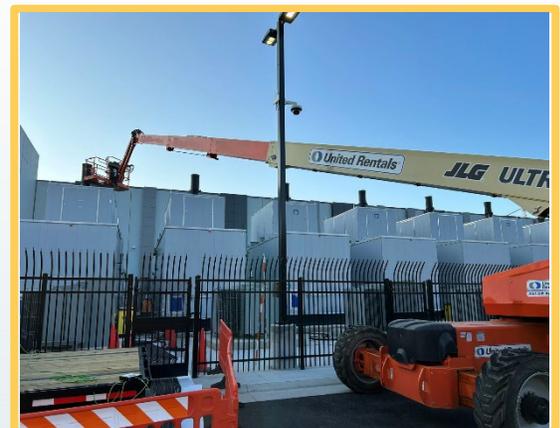
Committed to supporting the development and operation of data centers throughout the country.

Data centers are critical facilities enabling the storage, processing, and distribution of massive amounts of digital information. They require high levels of power reliability, security, sustainability and energy efficiency to meet the ESG demands of investors. However, data centers also face technical and permitting challenges, including site selection, environmental compliance, noise, air quality, energy consumption, cooling systems, seismic hazards, resiliency and structural integrity.

To overcome these challenges, data center owners and operators need a multidisciplinary partner who can provide comprehensive solutions for advancing each stage of your project lifecycle. GZA is such a partner. With over 60 years of experience in engineering and consulting, GZA has the expertise, resources, and innovation to help data center clients achieve their goals.



GZA developed a GHG emissions inventory system and Inventory Management Plan (IMP) for global data center operations for a confidential company. GZA also prepared a GHG emissions forecasting and target-setting tool to enable the client to evaluate various emissions reduction target pathways. A report of strategic recommendations to guide the client's climate change, energy, water security, and sustainability reporting strategies were also delivered as part of this



GZA has successfully completed confidential data center projects in Atlanta, GA, Austin, TX, Chicago, IL, Dallas-Fort Worth, TX, Manassas, VA, Portland, OR, and Richmond, VA.

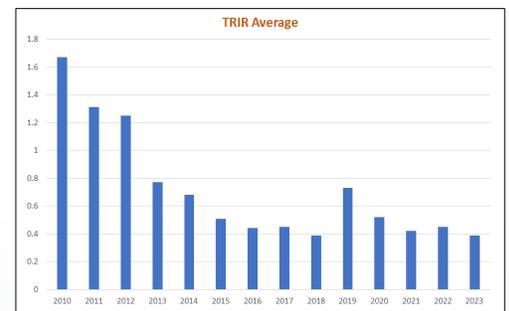
# GZA LEADS WITH SAFETY

*GZA's unwavering commitment to safety has earned the firm the National Safety Council's "Perfect Record" award 6 times. GZA has been recognized for over 7 million hours worked with zero incidents resulting in lost workdays.*

GZA's commitment with safety starts with our people and is supported by a dedicated GZA Health & Safety Team that includes Safety Coordinators in each GZA office, a Core Safety Team (CST), and our Corporate EHS and Learning Director (Richard Ecord, CIH, CSP). Members of this team have board certifications such as Certified Industrial Hygienist (CIH) and Certified Safety Professional (CSP). Our safety management system has been developed to conform to the OHSAS 18001 and ISO 45001 international safety management system requirements.

Because projects performed by GZA vary day to day, we develop a site- specific Health and Safety Plan (HASP) for each project that outlines the regulatory and GZA internal requirements for the work. The HASP is reviewed and approved both by the GZA Principal-in-Charge and the GZA CST. All projects at GZA have an assigned Field Safety Officer (FSO) who has completed a set course of study developed by GZA. The project team has a direct line of communication with the Corporate EHS and Learning Director should his assistance be needed.

- **Evidence of GZA's commitment to safety is our low Experience Modification Rating (EMR) of 0.85**
- **Our exceptionally low Recordable Incident Rate (RIR) of 0.28 (approximately 10 times less than our industry's average)**
- **Low Total Recordable Incidence Rate (TRIR) and Days Away, Restricted, or Transfer rate (DART) (less than our industry's average for more than a decade), and zero fatalities**



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# SERVICES FOR DATA CENTERS

*GZA's planners, engineers and scientists provide strategic planning, due diligence, development and design, construction, and operations support services for Data Centers.*

## STRATEGIC PLANNING:

- Air Quality: regulatory evaluation, permitting, air pollution controls, dispersion modeling, air toxics, schedule and timing, risks and contingencies
- Land use, Wetlands and Natural Resources: Desktop studies, initial site reconnaissance, entitlement permitting analysis, ecological restoration, threatened and endangered species screening
- Noise: Regulatory review, local approval planning, background noise, identification of sensitive receptors
- Sustainability: geothermal well loop pilot studies, renewable energy opportunities, ecological restoration, biodiversity assessments
- Resiliency: natural hazards vulnerability assessment

## DUE DILIGENCE:

- Air quality: Emissions and runtime estimations, dispersion modeling, Monte Carlo analysis
- Noise: Background noise monitoring, noise studies and modeling (i.e., CADNAA or SOUNDPLAN), noise mitigation planning
- Availability of water and water rights to support project construction and cooling needs
- Wetlands, Threatened and Endangered Species, Cultural Resources
- Environmental Site Assessments
- Regulated and Hazardous Building Materials and asbestos surveys and abatement design and monitoring
- Flood and Natural Hazards Assessment

## SITE DEVELOPMENT AND DESIGN:

- Air permit applications, pre-application communications, regulatory agency negotiation
- Noise mitigation, model revisions, permitting
- Geotechnical investigations, foundations and retaining walls, solar and battery energy storage systems
- Site layout and design
- Groundwater supply development
- Landscape architectural design
- Nature-based Solutions
- Native landscape and biodiversity inclusions
- Green infrastructure design
- Stormwater permitting
- Flood hazards mitigation design

## CONSTRUCTION, COMMISSIONING, AND OPERATION:

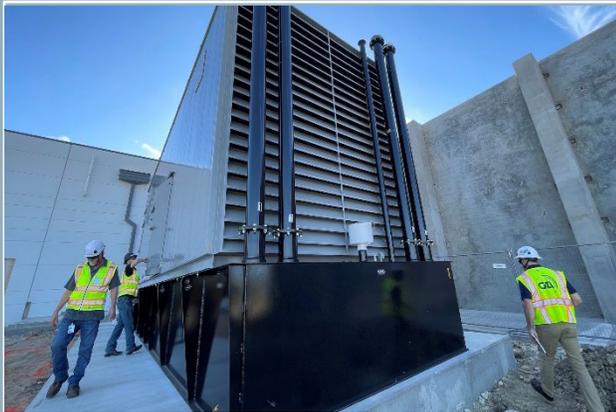
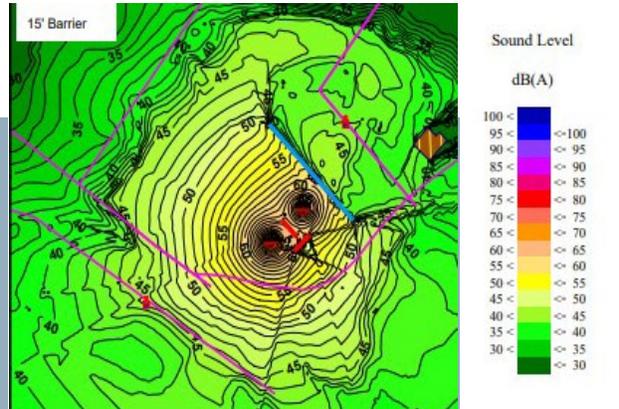
- Air permit compliance, emissions and operational tracking, regulatory notifications, emissions performance testing, emissions reporting, compliance support services
- Oil Pollution Prevention and Spill Prevention Control and Countermeasure Planning
- Post construction noise monitoring and mitigation support services
- Hazardous material inventory reporting

## PROJECT EXPERIENCE

GZA's strong environmental, health and safety culture is tightly integrated into all of our five core services - geotechnical, environmental, ecological, water and construction management - to support data center projects.

### CONFIDENTIAL DATA CENTER PROJECT IN MANASSAS, VA

GZA conducted studies and assisted with permitting for air, noise, wetlands, cultural, and threatened and endangered species.



### CONFIDENTIAL DATA CENTER CAMPUS IN NORTHERN VA

GZA conducted studies and provided permit compliance support for air, noise, and stack testing.



### CONFIDENTIAL DATA CENTER PROJECT IN HILLSBORO, OR

GZA conducted studies for air, noise, Clean Air Act Oregon Air Toxics, including air quality dispersion modeling with Monte Carlo statistical analysis for an intermittent source.



### CONFIDENTIAL DATA CENTER PROJECT IN RICHMOND, VA

GZA assisted our client with air permitting for a 500+ MW campus expansion. We also conducted major/minor source strategic planning that included generator runtime modeling, planning and strategy for an estimated 700+ MW campus expansion.

### NEW YORK STATE BROWNFIELD REDEVELOPMENT

GZA worked with a major financial institution redeveloping a 61-acre brownfield site into a database center. The site's enrollment in the New York State Department of Environmental Conservation Brownfield Cleanup Program required GZA to meet aggressive scheduling milestones.

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### WAREHOUSE DEVELOPMENT

GZA provided the geotechnical engineering services needed to develop a 540,000 square foot warehouse building and a new 1,900-foot-long rail siding in unsuitable soil conditions.

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### GEOTECHNICAL DESIGN SOLUTION FOR SOLAR CANOPIES

GZA assisted a design-build contractor when an area where multiple drilled shaft installations encountered "running sands," which is caused by loose sands and shallow groundwater.

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### L'OREAL BIODIVERSITY ASSESSMENTS

Part of L'Oréal's global sustainability initiative is to have 100% of their industrial facilities document measurable increases in biodiversity within their local environment. GZA was retained to establish a biodiversity baselines at every U.S. property to enable biodiversity metrics for the success of their corporate sustainability program.

[LEARN MORE](#)



Ready to discuss  
your project?  
Let's start.

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GEOTECHNICAL



ENVIRONMENTAL



ECOLOGICAL



WATER



CONSTRUCTION  
MANAGEMENT

