

From: Brotherton, Megan <BrothertonMR@bv.com>  
Sent: Friday, June 28, 2024 12:19 PM  
To: Kualii, Jennifer; Pineda, Cristina  
Subject: Black & Veatch - County of Hawaii Housing and Community Development SOQ FY 2024-2025

Dear Ms. Kunz,

We are pleased to submit an SOQ for Professional Services, Fiscal Year 2024-2025.

The file is too large to attach to this email. You may download this document from the shared OneDrive here: Black & Veatch\_County of Hawaii Housing and Community Development SOQ FY 2024-2025.pdf

Please confirm receipt.

Mahalo,  
Megan

Megan Brotherton  
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Building a World of Difference.®  
Actions Today Shape Tomorrow

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June 30, 2024

Ms. Susan Kunz, Administrator  
Office of Housing and Community Development  
[ohcdprofserv@hawaiicounty.gov](mailto:ohcdprofserv@hawaiicounty.gov)

**RE: County of Hawai'i Notice to Providers of Professional Services  
Office of Housing and Community Development**

Dear Ms. Kunz:

Our team at Black & Veatch is pleased to submit this letter of interest to provide professional services to be considered for services which support the County of Hawai'i, Office of Housing and Community Development. In the enclosed package, we have submitted our qualifications for the following:

- **OH.1)** Community Planning (Community Engagement, Strategic Planning)
- **OH.2)** Community Planning (Environmental Assessment)
- **OH.3)** Community Planning (Grant Writer)

Black & Veatch is a globally renowned engineering, procurement, consulting, and construction company with a rich history of over 100 years of innovation in sustainable infrastructure. As a company entirely owned by our employees, we are dedicated to supporting equity and diversity within our organization. Black & Veatch values the differences in our professionals and recognizes the importance of promoting an inclusive environment.

Since 1915, Black & Veatch has helped our clients improve the lives of people around the world by addressing the resilience and reliability of our most important infrastructure assets. We work with local, state, and federal governments, service providers, and private industries to deliver resilience through:

- Enhancing risk mitigation and fostering stronger communities through **integrated planning** to ensure essential assets can withstand potential hazards in the future.
- Creating forward-thinking and innovative strategies for **resilient and sustainable infrastructure** to safeguard critical assets and support communities for the long-term.
- Collaborating with clients to implement **nature-based solutions** for enhancing water quality, flood management, groundwater recharge, addressing urban heat island effects, as well as safeguarding shorelines and streams.
- Leveraging **climate vulnerability and risk assessments** to understand long-term impacts and create effective adaptation and resilience strategies.
- Identifying **funding and finance** opportunities for implementing mitigation projects and enhancing infrastructure to enhance the quality of life for our clients.
- Providing **program management** expertise to address the full project lifecycle, including conceptual planning, securing funding, providing environmental advisory, managing design and construction, and overseeing operation.
- Helping our clients achieve **equitable engagement and outcomes** to promote inclusivity and address socioeconomic disparities.



- Providing data analysis and communication using a variety of **modeling systems**, such as ArcGIS StoryMaps, Envision™, and PowerBI, to effectively monitor, gather, and interpret data, as well as engage with the public.

Our multidisciplinary teams are committed to serving as your trusted partner with innovative, end-to-end services and full project delivery solutions that are Building a World of Difference®. We appreciate the opportunity to provide the County with our qualifications to provide professional services for fiscal year 2025. In addition to this transmittal letter, and as outlined in the RFQ, our submittal includes our company details, key personnel and their qualifications, recent projects and references, and Statements of Qualifications (Attachment A) for the following disciplines:

- Alternative Funding and Financing Solutions
- Climate Adaptation & Resilience Planning
- Environmental Solutions
- Geospatial Solutions
- Nature-Based Solutions
- Program Management Solutions
- Resilient Stormwater Solutions
- Stream & Ecosystem Restoration Solutions
- Sustainability Solutions

Please add the following email addresses to your distribution list for project postings:

[SchlamanJC@bv.com](mailto:SchlamanJC@bv.com) and [BrothertonMR@bv.com](mailto:BrothertonMR@bv.com). If you have any questions, please contact me at (913) 458-3359 or [SchlamanJC@bv.com](mailto:SchlamanJC@bv.com).

Very truly yours,

A handwritten signature in blue ink that reads "James C. Schlaman".

James C. Schlaman  
Director of Water Resources  
Black & Veatch



Qualifications for

# Professional Services for the Hawai'i County Office of Housing and Community Development

County of Hawai'i

SOLICIATION # 24-25 | June 30, 2024





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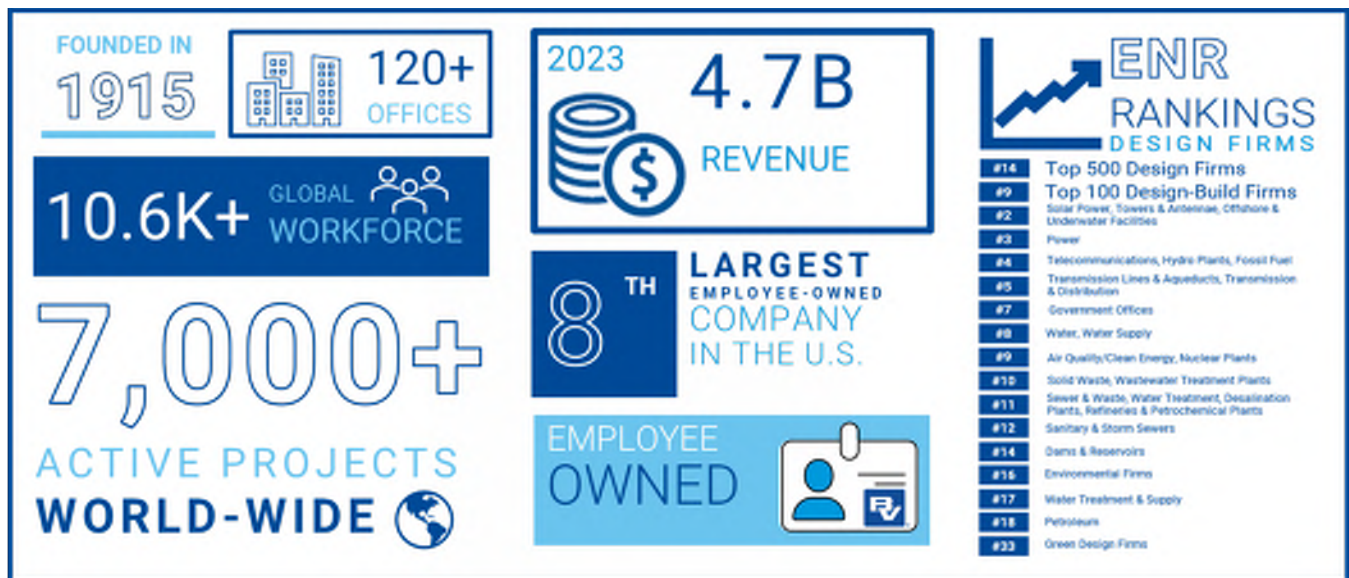
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# Meet Black & Veatch

**Black & Veatch is a 100% employee-owned global consulting, resilience planning, engineering, procurement, and construction company with a more than 100-year track record of innovation in sustainable communities.**

Black & Veatch is founded upon a 109-year commitment to collaborating with clients, partners, and stakeholders to drive toward a more sustainable and resilient future. BV's multi-disciplinary resilience team is nationally recognized for its ability to deliver innovative, integrated solutions. Our story began in 1915 when two former University of Kansas graduates, Ernest Bateman Black and Nathan Thomas Veatch, formed a partnership with 12 employees in one office. Over the next 100 years, Black & Veatch would grow to become one of the world's most successful engineering, procurement, consulting and construction (EPC) companies.

Black & Veatch is one of the largest and most diversified engineering-construction firms in the world, with a combined total staff of more than 10,000 professionals operating out of more than 120 offices worldwide, with a five-year average of 10,400 professionals. Through this network of collaboratively connected offices, we serve our clients and commit ourselves to professional excellence and innovation. As evidenced by our latest rankings in Engineering News Record (ENR), have been consistently ranked as one of the Top Design Firms and Contractors, including the below rankings which demonstrates our deep knowledge of the industries we serve.



Our professionals earn this kind of recognition by understanding our clients' business needs and objectives. We have the financial and technical resources to expertly execute projects. Furthermore, we value long-lasting relationships and believe that rapport enables superior customer service and support.

## Our Commitment to Sustainability

Black & Veatch brings together regional and national experts recognized for promoting sustainability, livability, green infrastructure, environmental conservation and restoration. At the foundation of our approach is a commitment to understanding and analyzing holistic project benefits to ensure they deliver

positive impact. This approach, aligned with the Institute for Sustainable Infrastructure's Envision® framework, works to minimize infrastructure impact on the natural world and the public while improving long-term community health and safety. Black & Veatch works with clients to affirm their commitments to promoting sustainability, and meeting project sustainability and Envision® goals.

Our sustainability strategy, [Accelerate Zero](#), outlines Black & Veatch's environmental, societal and governance policies, while elevating tangible progress to a cleaner, more equitable and prosperous world.

Diversity four star ranking with plans to grow. We seek to expand our internal awareness and create spaces where all are welcome, deepen our community relationships and outreach, and complete projects that reach beyond solving engineering problems to building up the community and creating a more equitable world.

As a company entirely owned by our employees, we are dedicated to supporting equity and diversity within our organization. We are committed to creating an inclusive workplace that values diversity and promotes a culture of inclusion to enhance our focus on equity. Black & Veatch values the differences in our professionals and recognizes the importance of promoting an inclusive environment.

## Capacity

Our task leaders and key personnel were selected based on their national and global experience, as well as skills that makes them uniquely qualified to provide value to the County of Hawai'i. They are supported by a diversely capable team with an exceptional level of experience in all the service areas necessary, along with the availability to provide support to required grant management, emergency management, and hazard mitigation scope of services.

## Corporate Stability

Black & Veatch's strength lies in the fact that we offer world-class project delivery based on our comprehensive integrated design-build capabilities. Each year, we manage construction on more than \$8 billion in projects and support our clients from planning and design to construction and commissioning. Our practical understanding and robust project management tools enhances our ability to help our clients make timely, value-based decisions during all phases and functions of the project. In our most recently completed fiscal year ending December 31, 2023, the company generated over \$4.7 billion in revenues. Black & Veatch has had a long track record of profitability during the 109 years that it has been in business. Our employee-owned company has more than 100 offices worldwide.

## Our Commitment to Diversity, Equity, and Inclusion

Diversity, Equity and Inclusion (DE&I) are key values for Black & Veatch. We are proud of our industry-leading diversity initiatives that placed us in Newsweek America's Greatest Workplace for



### LOCAL PRESENCE BY KEY PROFESSIONAL

Megan Brotherton is a seasoned hazard mitigation and climate resilience planner with a wealth of experience spanning over 28 years in multi-sector planning. She has developed close to thirty hazard mitigation plans throughout her career.

Since 2019, Megan has collaborated with Hawai'i County on a range of initiatives, including the Kilauea Recovery and Resilience Plan, Volcanic Risk Assessment, the Hawai'i County Hazard Mitigation Plan Update, and the County's Climate Adaptation Plan. She also served as lead planner on the State's Hazard Mitigation Plan Update.

Residing in Hawai'i County, Megan will act as the local representative for our team, offering on-site and in-person assistance for all projects within the County.

# Meet Our Key Team Members

The following page highlights some of the Black & Veatch individuals that would be available to work on potential projects from the Hawai'i County Office of Housing and Community Development.



## ROB FLANER, CFM | Community Planning and Grants Management

Rob is a Certified Floodplain Manager (CFM) with over 40 years of experience in leading teams that develop mitigation and resilience plans. Rob's extensive resume of experience includes leading the Local Hazard Mitigation Planning efforts for the Hawai'i Counties of Hawai'i, Kaua'i, and Maui. He was also the Project Manager for the City/County CRS project and served as the technical lead on the last two updates to the Hawai'i State Hazard Mitigation Plan.

### Education and Training

- Biological Sciences, Chico State/UC Davis
- Certified Floodplain Manager (CFM), 2000

### Key Project Experience

- Hawai'i State Hazard Mitigation Plan Update\*
- Hawai'i County Multi-Hazard Mitigation Plan Update\*
- Multi-Hazard Mitigation and Resilience Plan, Kaua'i County\*
- Statewide Funding Program Support, State of California (In Progress)

*\*Work performed while at a previous employer*



## ALISON MISKIMAN, CFM, GISP | Community Planning and Grants Management

Alison has 24 years' experience developing state and local hazard mitigation plans. She is a Certified Floodplain Manager (CFM) and a Global Information System Professional (GISP). She had led numerous mitigation plans, completed FEMA HMA grant applications for a variety of projects, and managed FEMA grants for home elevations. Alison's relevant experience involves managing the past two updates to the Hawai'i State Hazard Mitigation plan and supporting Hawai'i County's recovery from the Kilauea Volcano eruption in 2018.

### Education and Training

- Master of Science, Earth Science, Geochemical Systems, University of New Hampshire, 2000, United States
- Bachelor of Science, Environmental Science, University of Scranton, 1998, United States
- Geographic Information Systems Professional (GISP)
- Certified Floodplain Manager (CFM), 2007

### Key Project Experience

- Hawai'i State Hazard Mitigation Plan Updates (2018 and 2023)\*
- Hawai'i County Multi-Hazard Mitigation Plan Update\*
- County of Hawai'i Kilauea Recovery and Resilience Plan\*
- Hawai'i County Volcanic Risk Assessment\*
- City of Ocean City, NJ Grant Management for Home Elevations (In Progress)
- City of Rochelle Park, NJ Grant Management for Home Elevations (In Progress)
- Statewide Funding Program Support, State of California (In Progress)

*\*Work performed while at a previous employer*



## CINDY ROLLI | Community Planning

Cindy has over 27 years of experience in hazard mitigation and disaster recovery planning, with a strong focus on coastal communities. As a former Hawai'i resident, she has local knowledge and understanding of the area. Her relevant experience includes leading planning efforts for multi-jurisdictional mitigation plans across the country, including the States of Hawai'i and California.

### Education and Training

- Bachelor of Science, B.S. Geological Engineering, Missouri University of Science and Technology, 1996, United States

### Key Project Experience

- County of Hawai'i Kilauea Recovery and Resilience Plan\*
- Hawai'i County Multi-Hazard Mitigation Plan Update\*
- Kaua'i County Hazard Mitigation and Resilience Plan Update\*
- Maui County Dune Restoration Project\*
- Beach Park Vulnerability Assessment for the County of Maui; Maui County, Hawai'i\*
- Integrated Water Plan, City of Charleston, SC (2024)

- Statewide Funding Program Support, State of California (In Progress)

*\*Work performed while at a previous employer*



## MEGAN BROTHERTON | Community Planning and Grants Management

Megan has 28 years of experience in multi-sector planning and works directly with clients to develop plans that can be successfully implemented. Megan has led or supported dozens of FEMA-approved state and local hazard mitigation planning efforts, many of which followed the CRS steps to maximize CRS points. Megan is based in Hawai'i County and will serve as our team's local presence, overseeing the execution of all project tasks in coordination with Rob Flaner, the Project Manager. Her relevant experience includes lead planner roles for the

Counties of Hawai'i and Kaua'i and the most recent update to the Hawai'i State Hazard Mitigation Plan.

### Education and Training

- Business Information Management, Trend College, 1994

### Key Project Experience

- Hawai'i State Hazard Mitigation Plan Update\*
- Hawai'i County Multi-Hazard Mitigation Plan Update\*
- Statewide Funding Program Support, State of California (In Progress)

*\*Work performed while at a previous employer*



## CAROL BAUMANN, GISP | Computer Science

Carol is a Senior GIS Analyst with 30 years of experience working for public and private sector clients. She is a certified Global Information System Professional (GISP). Carol has been involved in multiple aspects of GIS projects including technical project management, data acquisition and integration, data conversion, database design, metadata documentation, application development, software customization, and map design and production. Carol has an

extensive resume of hazard mitigation planning experience that includes multiple projects in the State of Hawai'i.

### Education and Training

- Master of Science, Geography, University of South Carolina, 1993, United States
- Bachelor of Science, Electrical Engineering, Duke University, 1987, United States
- Geographic Information Systems Professional (GISP)

### Key Project Experience

- Hawai'i State Hazard Mitigation Plan Update\*
- Hawai'i County Multi-Hazard Mitigation Plan Update\*

*\*Work performed while at a previous employer*



## MELISSA CRANE | Community Planning

Melissa brings 17 years of experience as an urban planning practitioner with a focus on climate resilience, disaster recovery, adaptation planning, data analysis, urban and rural design land use, and sustainability. Melissa's career began with working for FEMA and CEQ on environmental justice issues post Hurricane Katrina. She has since worked in Washington, DC on national policy, interagency coordination, and far-reaching initiatives to build capacity and coordination for resilience, sustainability, and equity. She has designed and managed

local recovery planning efforts in states across the country and contributed to more than 20 local and regional recovery plans, including work in many low-income and minority communities grappling with extreme vulnerabilities. Additionally, Melissa has provided technical assistance and disaster recovery support within the State of Hawai'i.

### Education and Training

- Master of Science, Urban Planning, Columbia University, 2011
- Bachelor of Arts, Sociology, Loyola University, 2005

### Key Project Experience

- FEMA National Disaster Recovery Support Cadre; Honolulu, HI\*
- HUD Technical Assistance for the State of Hawai'i Department of Hawaiian Home Lands\*
- City of Charleston Comprehensive Integrated Water Plan

*\*Work performed while at a previous employer*



## HEATHER APGAR, CFM | Community Planning and Grants Management

With over 18 years of experience, Heather specializes in hazard mitigation planning and grant management services. She is a Certified Floodplain Manager (CFM) and has extensive FEMA HMA grant program experience that resulted in over \$49 million in awards\*. During her time at Tetra Tech, Heather served as the grant administrator and manager for over \$38 million in FEMA funding for flood mitigation projects. Heather's relevant experience with regards to

mitigation planning includes leading planning efforts for multi-jurisdictional plans across the country, including the Hawai'i State Hazard Mitigation Plan (2018 and 2023).

### Education and Training

- Bachelor of Science, Environmental Science, University of New England, 2005
- Certified Floodplain Manager, 2007

### Key Project Experience

- Hawai'i State Hazard Mitigation Plan Update (2018 and 2023)\*
- City of Ocean City, NJ Grant Management for Home Elevations (In Progress)
- City of Rochelle Park, NJ Grant Management for Home Elevations (In Progress)

*\*Work performed while at a previous employer*



## FRANCESCA MCCAN | Grants Management

Francesca brings over 20 years of financial and commercial leadership in the water and energy sectors. Her expertise includes funding and financing assessment and strategy, grant applications, financial project structuring and public-private partnerships (P3s). Francesca leads Black & Veatch's (BV) Alternative Funding and Financing Practice. Since 2017, Francesca has assisted BV clients in navigating the funding landscape and submitting successful grant

and loan applications for multiple funding programs. Francesca and her team evaluate federal, state and local grant programs, as well as regional and private sector funding opportunities. Francesca has completed funding evaluations for projects totally over \$13 billion. She understands the nuances of funding programs, including the new federal money from the Infrastructure Investment and Jobs Act (IIJA) and the Inflation Reduction Act (IRA).

### Education and Training

- Bachelor of Arts, International Political-Economy, Colorado College
- Master of Business Administration, International Finance, UCLA Anderson School

### Key Project Experience

- Statewide Funding Program Support, State of California (In Progress)
- Funding Evaluation, Strategy Development, Grant Application Submittal, Grant Management; California Department of Water Resources (In Progress)
- Funding Evaluation, Strategy Development, Grant Application Submittal, Grant Management; Multiple Locations, Florida (In Progress)



## JOHN KIEFER, SRPWS, PE, PHD | Environmental Engineer

Dr. John Kiefer is the Ecosystem Solutions Practice Lead for Black & Veatch. He has worked with interdisciplinary teams to develop successful ecosystem restoration projects that solve a variety of society's challenges. In many cases his designs provide nature-based solutions in natural streams and stormwater management systems to address community-based infrastructure problems related to flood hazard mitigation, water quality improvement, fisheries development, recreation, and economic stimulus.

Clients include Federal and state agencies, municipalities and counties, mining, agriculture, and industry.

### Education and Training

- Doctor of Philosophy, Environmental Engineering Sciences, University of Florida, 2010, United States
- Master of Engineering, Environmental Engineering Sciences, University of Florida, 1991, United States
- Bachelor of Science, Environmental Engineering Sciences, University of Florida, 1989, United States
- Professional Engineer (Florida), Environmental

### Key Project Experience

- McCoys Branches Water Quality Assessment; Jacksonville, Florida (In Progress)
- Peer Review of Horse Creek Outfall Study; Hardee County, Florida (In Progress)
- Lafayette Blue Spring MFL Study; Mayo, Florida (In Progress)



## ANDREW K. SMITH, P.E., CFM, ENV SP | Civil Engineer

Andrew Smith is an Engineering Manager in the Water Resources Engineering group. He specializes in fluvial geomorphology, open channel flow, watershed planning, hydraulic structure design, and modeling techniques for bridge scour, which was the topic of research for his master's degree. His work experience has centered around watershed management, with varied projects including dam and spillway design, GIS (geographic information systems) analysis, hydrologic and open channel hydraulics modeling, and stream restoration. Other areas of expertise include dam breach modeling, wetlands restoration and delineation, sediment and erosion control, and permitting.

### Education and Training

- Master of Business Administration, Business, Strategic Management, University of Kansas, 2012, United States
- Master of Science, Civil Engineering, Water Resources, University of Kansas, 2000, United States
- Bachelor of Science, Civil Engineering, University of Kansas, 1998, United States
- Professional Engineer (multiple states), Civil
- Certified Floodplain Manager, 2024

### Key Project Experience

- Blacksnake Stormwater Separation Improvement; Missouri (2017)\*
- Westport Stormwater Management Plan; Kansas City, Missouri (2017)\*
- Prairie Island and Monticello Nuclear Generating Plants Flood Hazard Reevaluation; Minnesota (2016)\*

*\*Work performed while at a previous employer*



## LAURA JENSEN ADAMS, ENV SP, P.E. | Civil Engineer

Laura leads the Communities & Ecosystems Practice for Black & Veatch, working with teams across the country to develop solutions that elevate community resilience, restore ecosystems, and integrate nature-based solutions. She focuses on transformative opportunities that advance equity, climate resilience and connection to the natural world. She is dedicated to collaborating across disciplines and advancing innovative approaches, such as performance-based delivery of infrastructure: providing technical guidance to develop programs, forging innovative partnerships, and leveraging construction expertise to inform design. She has played a key leadership role to guide two Community Based Partnerships where Black & Veatch is responsible for managing design and construction: the Fresh Coast Protection Partnership in Milwaukee, WI and the Clean Water Partnership in Prince George's County, MD.

### Education and Training

- Bachelors, Civil Engineering, University of Kansas, 2006, United States
- Professional Engineer (Kansas), Civil

### Key Project Experience

- Green Infrastructure Program Development; Wilmington, Delaware (2022)
- Fresh Coast Protection Partnership; Milwaukee, Wisconsin (2022)
- Stormwater Infiltration and Groundwater Recharge Feasibility Assessment, Stormwater CIP; Beverly Hills (2022)



## ROBERT JOSEPH WAGNER, BCEE, D.NE, PE | Civil Engineer

Robert J. (Joe) Wagner has led numerous coastal and dredging engineering projects, including developing long-range dredged material management plans; designing upland dredged material containment facilities; performing economic evaluations, creating dredging management plans, evaluating alternative dredging technologies; and assisting with site inspections and assessments of more than 80 dredged material management facilities nationwide. Joe has also coordinated with government representatives and regulatory agencies in property acquisition, planning, permitting, designing, and construction administration of numerous dredged material management areas and dredging projects throughout the United States, South America, and the Caribbean.

### Education and Training

- Master of Engineering, Coastal and Ocean Engineering, Texas A&M University, 2001, United States
- Professional Engineer (multiple states)

### Key Project Experience

- Loko Pa'aiau Fishpond Restoration, Honolulu, Hawai'i (2023)
- Ameren; Labadie Energy Center River Sediment Control and Dredging Project; Missouri, United States (In Progress)
- Loudon Water Authority; Goose Creek Reservoir; Virginia, United States (In Progress)



## JON MICHAEL DINGES, P.E. | Civil Engineer

Jon's professional experience includes more than 23 years of civil and environmental engineering, with a focus on water resources, coupled with management and executive expertise. His core skills include a proven ability to develop and service new clients; identify and pursue strategic opportunities; and tackle unique client problems with custom solutions developed with a collaborative, team-based approach. His core technical skills include engineering; project and program management; stormwater management, industrial and domestic wastewater treatment; wastewater collection, transmission, and reuse systems; water supply assessment and planning; hydrologic assessment and restoration; instream flows assessment and establishment; quality assurance/quality control; regulatory permitting and compliance; and technical writing, review, and editing.

### Education and Training

- Bachelor of Science, Environmental Engineering, Water Resources, University of Florida, 1994, United States
- Associate of Arts, Pre-Engineering, Florida Gateway College, 1991, United States
- Professional Engineer, Civil Engineering, 2019

### Key Project Experience

- Creative Water Solutions; Innovative Industrial Wastewater Treatment System; Texas (In Progress)
- Florida Fish and Wildlife Conservation Commission; Karick Lake Restoration and Dam Inspection; Florida (2018)
- Northwest Florida Water Management District; Wakulla Springs and Swallets Water Quality Monitoring Program Evaluation; Florida (2016)
- One Water Master Plan for Winter Haven FL (2020)

# Climate Adaptation and Resilience Planning

Black & Veatch offers a full suite of services and professionals to guide utility, local, state and federal partners as they adapt to the changing climate and build community resilience. Our approach to adaptation and resilience planning is scalable and iterative – building capability and capacity each step of the way. Our goal is to implement our client’s roadmap to achieve long-term resilience.

## Integrating Complimentary Expertise

Our planning solutions are grounded in managing future risk across Black & Veatch’s solution areas.

- *Environmental Planning & Consulting*
- *Ecosystem Restoration*
- *Stormwater & Coastal Defense*
- *Heat, Wildfire & Drought*
- *Renewable Energy*
- *Facility Resilience*
- *Clean Transportation*
- *Digital & Cybersecurity*
- *Decarbonization*
- *Envision Certification*

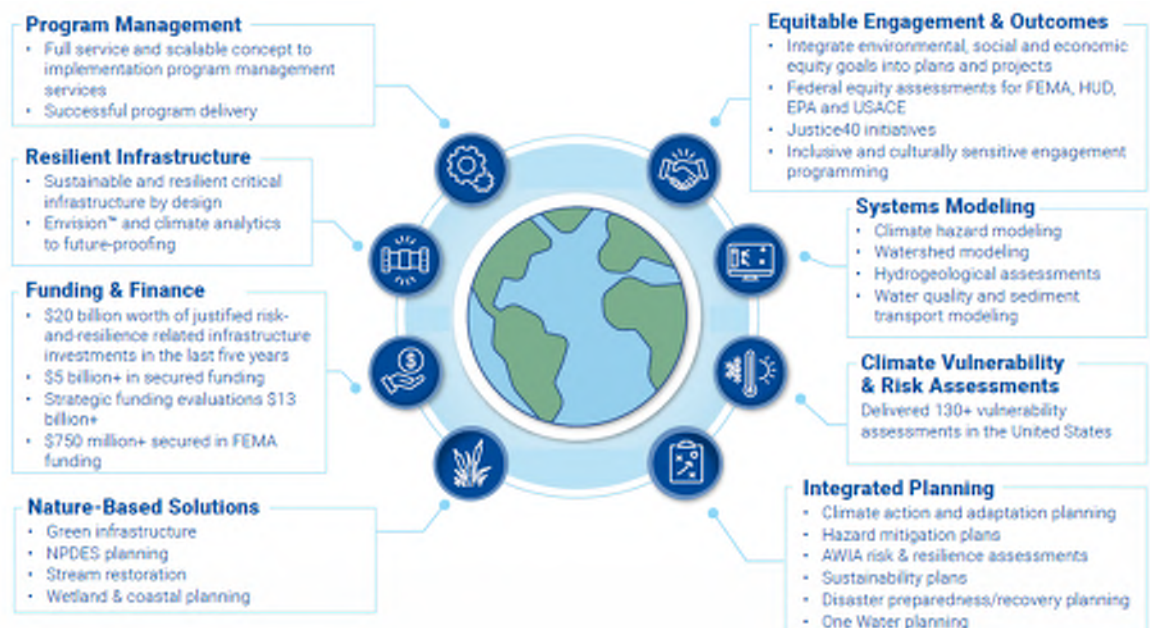
Climate Adaptation and Resilience Planning creates the framework for robust decision-making. At Black & Veatch, we help our clients mitigate risk by offering a broad range of resilience solutions that blend land use and hazard mitigation planning with future-ready infrastructure and nature-based solutions. By identifying and

reducing risk in vulnerable communities, our clients achieve more equitable outcomes. And when the plans are complete, we support clients with the expertise to execute their vision.

## Our Commitment to Sustainability and Resilience

Our world is changing, the systems governing risk to our infrastructure and natural systems have shifted. Building communities, ecosystems and infrastructure resilience means understanding the hazards and disasters that have shaped our recent past and preparing for those that may affect our future. As illustrated here, Black & Veatch’s Climate Adaptation and Resilience Planning Solutions focus on

transformation at the systems level. We offer strategic planning services to help you prepare for financing, design, and put Black & Veatch’s resources at our client’s fingertips to create a seamless path toward implementation.



# Environmental Planning and Assessments

Our team of environmental specialists, biologists, and cultural resource specialists perform environmental analyses required by state and federal agencies, international governments, and financial institutions. Assessments can also drive infrastructure project planning and investments to help clients maximize sustainable outcomes by identifying environmental risks in design, construction, and schedules. Our solutions are framed by extensive power, water, telecommunications, infrastructure, and industrial knowledge, allowing for better coordination between clients, agencies, and Black & Veatch's environmental specialists.

## Environmental Assessments

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Project development depends on the ability of the developer to identify key environmental issues, minimize environmental impacts and secure all required licenses, approvals and environmental permits. Black & Veatch has a full staff of environmental professionals who can conduct the environmental assessments and identify (and obtain) the permits and licenses required for project construction and operation. Black & Veatch has performed this type of review on a multitude of potential sites for client projects, both informally as a due diligence process and through the National Environmental Policy Act (NEPA) review process. Over the past five years, Black & Veatch has conducted over 150 Phase I and II Environmental Site Assessments (ESAs) to identify and define recognized environmental conditions for the range of contaminants within the scope of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) as well as for petroleum products. The process satisfies one of the requirements to qualify for the innocent landowner defense to CERCLA liability. Assessments are conducted in accordance with American Society of Testing and Materials guidelines and consist of four components: records review, site reconnaissance, interviews and a report.

## Environmental Impact Studies

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Black & Veatch's qualified environmental professionals perform and/or supervise the environmental analyses and assessments required by state and federal agencies, international governments, and financial institutions. Black & Veatch obtains and analyzes data on existing environmental conditions of the site, evaluates alternatives, assesses the impacts of construction and operation of the proposed project, and develops mitigation and monitoring programs. Services offered include:

- Air and Water Quality Impact Studies
- Noise Assessments
- Visual Impact Assessments
- Land Use Evaluations
- Recreational Analyses
- Terrestrial Ecosystem Investigations
- Geological and Soils Investigations
- Federal and State Jurisdictional Wetlands Identification, Delineation and Mitigation
- Wetland Function and Value Assessments
- Aquatic Resource Inventories
- Fisheries Impact Analyses
- Instream Flow Studies
- Threatened and Endangered Species Studies
- Cultural Resource Investigations
- Traffic Studies
- Socioeconomic Analyses
- Environmental Justice Evaluation

# Environmental Planning

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At Black & Veatch, we understand managing environmental, climate, regulatory and reputational risks can be daunting. That's why we provide comprehensive solutions that mitigate risks and deliver positive environmental outcomes. Whether it's conserving land, protecting water and air quality, facilitating design and regulatory approval of new infrastructure, or tackling climate impacts, our team is committed to helping clients achieve their organizational and sustainability goals. Our professionals provide a broad array of solutions, including air quality, acoustics, GHG lifecycle and climate impact modeling; natural and human environmental assessments and compensation strategies; nature-based remedies to improve watersheds and coastal resiliency; regulatory compliance and remediation for legacy and emerging contaminants, including PFAS; and environmental justice and equity for historical and proposed infrastructure and land use decisions. Environmental services provided by Black & Veatch include:

- Site Selection, Zoning & Land Use
- Acoustics & Noise Control
- Air Regulation & Sciences
- Climate Solutions
- Land Services, Linear Routing & Siting
- Regulatory Compliance & Monitoring
- Emerging Contaminants (PFAS)
- Environmental Remediation
- Environmental Science (NEPA/CEQA)

# Environmental Compliance

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Black & Veatch environmental compliance experts access knowledge from across industries and geographies to keep you ahead at all stages of your infrastructure lifecycle. Clients can leverage our unique combination of in-house scientists, permitting specialists, biologists, regulatory experts, meteorologists, environmental assessors, and socio-economists to develop an efficient and integrated project that meets or exceeds all regulatory requirements.

Our capabilities are applied through a diverse range of environmental compliance services from transactions due diligence and development planning to the operation, decommissioning or expansion of facilities. We specialize in minimizing risks with cost-effective technical solutions, while looking at ways to achieve maximum operating flexibility for all utility, industrial, manufacturing and processing facilities and networks. Our wide range of integrated environmental compliance and management services include:

- Multimedia Compliance Planning
- Environmental Compliance Assessment
- Environmental Due Diligence Reports
- Phase 1 and 2 Environmental Site Assessments
- Toxic Release Inventory (TRI) and Emissions Inventory Reporting
- Regulatory Requirements Identification
- Permitting Assessment and Strategy Development
- Agency Consultation
- Permit Application Preparation and Support
- FERC Hydro Licensing and Relicensing
- FERC Certification for LNG and Interstate Pipelines
- Regulatory Compliance Consulting
- Public Hearing Support

# Grant Coordination and Management

Black & Veatch's team provides project and program assessments and evaluates available sources of funding and financing. We develop and implement strategies to match program priorities and map optimal combination, leveraging, and stacking of grants, loans, tax credits, rebates, and other funding sources. Additionally, we monitor project funds for compliance to ensure that the funds are being used appropriately and in accordance with regulations. Through these services our clients can decrease the burden on ratepayers and accelerate and/or expand projects and programs, allowing for more projects within the County to be completed.

To date, the proposed team has assisted communities with more than \$750 million in FEMA mitigation grant planning and project awards.

The Black & Veatch team has a proven record of developing solutions that can help clients secure funding for their projects. Our team includes experts who are well-versed in various funding options, and we can help the County of Maui navigate the complex funding landscape. Our team provides full complement of financial, technical, and management services. Our staff offer

expertise in understanding eligibility criteria required for FEMA Hazard Mitigation Assistance (HMA) programs including the Hazard Mitigation Grant Program (HMGP), Flood Mitigation Assistance (FMA); and Building Resilient Infrastructure and Communities Grant Program (BRIC). We are also experienced with assisting our clients in writing and coordinating grant projects with other programs such U.S. Department of Housing and Urban Development (HUD) Community Development Block Grant-Disaster Recovery Mitigation (CDBG-MIT) program, U.S. Environmental Protection Agency (EPA) Environmental and Climate Justice Community Change Grants program, EPA Climate Pollution Reduction Grants, U.S. Bureau of Reclamation WaterSMART grants, and U.S. Department of Energy Grid Resilience and Innovation Partnerships Program.

## Alternative Funding

Black & Veatch's Alternative Funding and Financing Services (AFS) team dedicated to understanding the funding landscape and securing and managing funding for our clients. Working collaboratively with our clients, our team evaluates funding/financing options, assists with grant and loan applications, and supports the compliance and management of awards. The AFS team maintains in-depth knowledge and strategic insight of the funding landscape, understands the complexities and nuances of funding opportunities, constantly monitors for new opportunities, and develops and maintains relationships with key funding entities.

This foundational knowledge then gets tailored to each client's specific needs by applying our funding framework to support them in all aspects of the project or program funding. Depending on the needs and the capacity of the County, and complexity of the projects or programs, the various aspects of the funding framework can be segmented, and Black & Veatch can support all or only parts of the funding cycle.

# Our Experience

The Black & Veatch team has a robust resume of relevant past performance that highlights our professional qualifications to provide services to the County of Hawai'i. We bring our local knowledge, corporate reliability, cross-functionality, and subject matter expertise to successfully meet the demands and needs of the County. The table below provides an overall matrix of our experience, focusing on ecology, watershed management, and natural resource management. Additional information regarding the projects listed below or any other projects performed by Black & Veatch can be provided upon request.

**TABLE 1. MATRIX OF EXPERIENCE**

| Client/Project Name                                                                                                         | Project Elements       |                                            |                                   |                                        |
|-----------------------------------------------------------------------------------------------------------------------------|------------------------|--------------------------------------------|-----------------------------------|----------------------------------------|
|                                                                                                                             | Hawai'i County Project | Climate Adaptation and Resilience Planning | Grant Coordination and Management | Environmental Planning and Assessments |
| Beach Park Vulnerability Assessment for the County of Maui (2020-2021)*                                                     |                        | X                                          |                                   |                                        |
| California Department of Water Resources Statewide Funding Program Support (In Progress)                                    |                        | X                                          | X                                 |                                        |
| City and County of Honolulu National Flood Insurance Program and CRS project (2023)*                                        |                        | X                                          |                                   |                                        |
| Coachella Valley Water District 2024 Hazard Mitigation Plan (2023-2024)                                                     |                        | X                                          |                                   |                                        |
| Community Development Block Grant – Disaster Recovery (CDBG-DR) Action Plan (2019-2020)*                                    | X                      | X                                          | X                                 |                                        |
| County of Hawai'i Hazard Mitigation Grant Program (HMGP) Applications and Benefit Cost Analysis for six grants (2019-2020)* | X                      | X                                          | X                                 |                                        |
| County of Hawai'i Kilauea Recovery and Resilience Plan (2019-2020)*                                                         | X                      | X                                          |                                   |                                        |
| County of Hawai'i Multi-Hazard Mitigation Plan Update (2020)*                                                               | X                      | X                                          |                                   |                                        |
| County of Hawai'i Research and Development, Climate Adaptation Plan (2022-2023)*                                            | X                      | X                                          |                                   |                                        |
| County of Hawai'i Shoreline Setback and Riparian Analysis (2023-2024)                                                       | X                      | X                                          |                                   |                                        |
| County of Hawai'i Volcanic Risk Assessment (2020)*                                                                          | X                      | X                                          |                                   |                                        |
| County of Kaua'i Hazard Mitigation and Resilience Plan Update (2021)*                                                       |                        | X                                          |                                   |                                        |
| County of Kaua'i Pre-Disaster Recovery Framework (2024)                                                                     |                        | X                                          |                                   |                                        |
| Ocean City, NJ HMGP-Funded Residential Elevations (In Progress)                                                             |                        |                                            | X                                 |                                        |
| Rochelle Park, NJ FMA-Funded Residential Elevations (In Progress)                                                           |                        |                                            | X                                 |                                        |
| Sea Level Rise Strategy, Charleston, South Carolina                                                                         |                        | X                                          |                                   | X                                      |
| State of Hawai'i Hazard Mitigation Plan Update (2023)*                                                                      |                        | X                                          |                                   |                                        |
| State of Hawai'i Recovery and Resilience Plan CDBG-DR*                                                                      |                        | X                                          |                                   |                                        |
| Texas General Land Office Post Hurricane Harvey HUD MIT, Statewide Oversight*                                               |                        |                                            | X                                 |                                        |
| Village of Key Biscayne, FL Resilient Infrastructure Program (2022-2024)                                                    |                        | X                                          |                                   | X                                      |

\*Denotes work at a previous employer

## References

On the following pages are examples of past projects led by members of the Black & Veatch team over the last five years, including two within the last year. We bring local knowledge, corporate reliability, cross-functionality, and subject matter expertise to successfully meet the demands of the County and its agencies and departments. Please note that several of these projects were not contracts with Black & Veatch; however, key personnel for each project are now professionals at Black & Veatch, using their vast

resumes of experience to build and strengthen the Black & Veatch community resilience services including hazard mitigation planning. Each project was supported and/or led by key personnel from the Black & Veatch team, providing the County with a cohesive team and technical approach.



# Hawai'i State Hazard Mitigation Plan Update

HAWAI'I EMERGENCY MANAGEMENT AGENCY (HI-EMA) | HONOLULU, HI

While with another firm, key members of the Black & Veatch team led the 2023 update effort of the Hawai'i State Hazard Mitigation Plan for the Hawai'i Emergency Management Agency (HI-EMA). Based upon previous work in the State and a reputation for success built upon hundreds of approved mitigation plans, the consultant team led the State of Hawai'i Hazard Mitigation Plan Update that details the State's natural hazard risks, vulnerabilities and mitigation goals, objectives and priorities. A collaborative program was designed to identify, reduce and eliminate the long-term risk to life and property from natural hazards. The planning process included a comprehensive natural hazard risk assessment update using Hazus modeling to assess the risk and vulnerability of people, property, and the environment. Risk assessment results were developed into a StoryMap by the consultant team. The consultant team worked with identified subject-matter experts and stakeholders to identify factors of change that may increase the State's vulnerability to hazards such as potential development, projected changes in population and other factors including aging infrastructure or climate change. The consultant team worked with state agencies and subject-matter experts to outline and describe the State's mitigation capabilities, strategies and priorities for future mitigation activities and the updated strategies will serve as a long-term blueprint for reducing potential losses identified in the risk assessment. The plan was approved by FEMA Region 9 on September 28, 2023.

## RELEVANCE OF THE PROJECT

- Understanding of risks throughout the State
- Coordination with state and local agencies
- Project completed in the last year

## KEY PERSONNEL

- Alison Miskiman
- Rob Flaner
- Megan Brotherton
- Carol Baumann
- Heather Apgar

## CONTRACT AMOUNT

\$299,602

## SCHEDULE

July 2022 – September 2023

## CLIENT CONTACT

Kelsey Yamanaka, Acting State Hazard Mitigation Officer  
(808) 733-4300  
kelsey.a.yamanaka@Hawaii.gov

## FOLLOW LINK TO VIEW THE FULL PLAN

<https://dod.hawaii.gov/hiema/hazard-mitigation-plans/>



## National Flood Insurance and Community Rating System Program

CITY AND COUNTY OF HONOLULU | HONOLULU, HI

While at a previous employer, Rob Flaner and his team worked with the City and County of Honolulu to meet all CRS application prerequisites and help the City and County get into the CRS program with a Class 9 rating. With over 36,000 flood insurance policies in force, providing over \$8.7 billion in coverage, and a collective annual premium of \$24.6 million; the City and County of Honolulu had a vested interest to get into the CRS program. The Community Rating System (CRS) is a voluntary, incentive-based community program that recognizes, encourages, and rewards local floodplain management activities that exceed the minimum standards of the National Flood Insurance Program. The City and County sought technical assistance to prepare the City and County's application to the CRS program. Recognizing the subject-matter expertise in the CRS program provided by Rob Flaner and his team, the City and County selected Rob's firm at that time to complete this work. The ultimate goal for this project was to meet all CRS application prerequisites and help the City and County get into the CRS program with a Class 9 rating. The scope of work for this project involved an in-depth review and analysis of the City and County floodplain management program to determine where that program was best positioned to score under the CRS program. During this review, it was found that the City and County program lacked the level of detail to meet CRS Repetitive Loss requirements. This required a course correction on the scope of work, to prepare a Repetitive Loss Area Analysis (RLAA) pursuant to CRS Activity 510. Rob and his team prepared this analysis utilizing a "reverse damage function" methodology developed by the team that utilized Hazus. The RLAA utilized the 121 properties that were identified by FEMA as Repetitive of Severe Repetitive Loss properties to identify, inventory and map over 460 properties within 66 designated repetitive loss areas. The RLAA paved the way for the City and County achieving a CRS class 8 designation, saving the City and County over \$2.1 million per year in annual flood insurance premiums.

### RELEVANCE OF THE PROJECT

- Supports hazard mitigation and the CRS program
- Understanding of local planning in the State
- Familiarity of flood risks

### KEY PERSONNEL

- Rob Flaner

### CONTRACT AMOUNT

\$110,000

### SCHEDULE

July 2020 – August 2021

### CLIENT CONTACT

Matt Gonser, Chief Resilience Officer and Executive Director  
(808) 768-2276

[matthew.gonser@honolulu.gov](mailto:matthew.gonser@honolulu.gov)

### FOLLOW LINK TO VIEW THE FULL PLAN

<https://www.resilientoahu.org/get-flood-ready>



## Kaua'i County Hazard Mitigation and Resilience Plan Update

KAUA'I EMERGENCY MANAGEMENT AGENCY | LĪHU'Ē, HI

Key members of the Black & Veatch team led the 2020 to 2021 update effort of the Kaua'i County Hazard Mitigation Plan while at a previous employer. Members of the BV team conducted HMP update using a planning process that meets both Disaster Mitigation Act (DMA) of 2000 requirements and CRS Activity 510 Comprehensive Floodplain Management Plan requirements.

This was a multi-hazard planning effort covering all of the planning districts on the island of Kaua'i. The cornerstone of this project was a comprehensive risk assessment of ten natural hazards of concern (Tropical Cyclone, Wildfire, Climate Change, Inland Flood, High Surf-Coastal Flood & Erosion, Tsunami, Landslide, Dam Failure, Earthquake, and Heat & Drought). Hazus-MH was utilized to assess the dam failure, tropical cyclone, earthquake and flood hazards. A level II, user-defined protocol was applied to the earthquake and flood analyses. This plan was facilitated through a 13-member Steering Committee made up of planning partners and other stakeholders from within the planning area. This committee identified a multi-media public involvement strategy that was deployed by the planning team during the course of the project. This included a StoryMap

(<https://kauaigis.maps.arcgis.com/apps/MapSeries/index.html?appid=9283c6b4f9fe447689f707e42303ce4f>) that played an integral role in engaging the public during the plans development and will be utilized by the County to communicate the plan's implementation.

The plan identified and prioritized 49 actions to be implemented by Kaua'i County over the 5-year performance period of the plan. The Plan was approved by FEMA Region 9 on April 30, 2021.

### RELEVANCE OF THE PROJECT

- Understanding and familiarity of hazards and their risks in HI
- Understanding of local planning in the State

### KEY PERSONNEL

- Rob Flaner
- Cindy Rolli
- Megan Brotherton
- Carol Baumann

### CONTRACT AMOUNT

\$100,000

### SCHEDULE

April 2020 – April 2021

### CLIENT CONTACT

David Kennard, Disaster Assistance  
Project Manager  
(808) 241-1794  
[dkennard@kauai.gov](mailto:dkennard@kauai.gov)

### FOLLOW LINK TO VIEW THE FULL PLAN

<https://www.kauai.gov/Government/Departments-Agencies/Emergency-Management-Agency/Multi-Hazard-Mitigation-and-Resilience-Plan>



# Hawai'i County Multi-Hazard Mitigation Plan Update

HAWAI'I EMERGENCY MANAGEMENT AGENCY | HILO, HI

Key members of the Black & Veatch team led the 2019 to 2020 update effort of the Hawai'i County Hazard Mitigation Plan while at a previous employer. Members of the BV team conducted the HMP update using a planning process that meets both Disaster Mitigation Act (DMA) of 2000 requirements and CRS Activity 510 Comprehensive Floodplain Management Plan requirements. The project included extensive repackaging of the County plan to increase readability, usability and integration with County plans and programs that could support and enhance hazard mitigation actions identified by the plan. The planning process was guided by a stakeholder group that oversaw the plan development during nine Working Group meetings. Updated goals, objectives and mitigation initiatives were developed to more readily align with existing County and State goals, programs and priorities. Members of the BV team conducted an enhanced risk assessment using HAZUS-MH and GIS analysis for 12 hazards of concern. The assessment included an update of the general building stock and the development of a critical facilities database. A public participation strategy included a public survey, public meetings in four locations across the island, and a public comment period. The plan identified and prioritized over 35 actions based upon the County's core capabilities and capacity to implement the actions. The update plan was approved by FEMA Region 9 on September 15, 2020 after the first review.

## RELEVANCE OF THE PROJECT

- Understanding of hazards and their risk in the County
- Experience of hazard risks in Hawai'i County
- Client familiarity with key personnel

## KEY PERSONNEL

- Rob Flaner
- Cindy Rolli
- Megan Brotherton
- Carol Baumann
- Alison Miskiman

## CONTRACT AMOUNT

\$152,963

## SCHEDULE

August 2019 - September 2020

## CLIENT CONTACT

Talmadge Magno, Civil Defense Administrator  
(808) 935-0031

[talmadge.magno@hawaiicounty.gov](mailto:talmadge.magno@hawaiicounty.gov)

## FOLLOW LINK TO VIEW THE FULL PLAN

<https://hawaii-county-civil-defense-agency-hawaiicountygis.hub.arcgis.com/pages/mhmp>



# Coachella Valley Water District 2024 Hazard Mitigation Plan

COACHELLA VALLEY WATER DISTRICT |  
COACHELLA, CA

Black & Veatch was hired by the Coachella Valley Water District to facilitate the update of the local hazard mitigation plan for the District. This was the second plan developed by the District and included numerous enhancements, including: enhanced, updated natural hazard risk assessment; updated mitigation goals; enhanced stakeholder and public outreach, including a focus on reaching socially vulnerable communities; and expanding descriptions of future hazard vulnerability based on climate change projections.

Key members of the BV team led the comprehensive update effort, following FEMA’s updated local hazard mitigation planning requirements that went into effect on April 19, 2023. The planning process included a thorough risk assessment of 14 natural and non-natural hazards to focus on the vulnerability of district assets and people in the planning area. Part of the robust public and stakeholder outreach effort included engaging disadvantaged communities in the planning process.

Black & Veatch worked with district representatives and local stakeholders to identify factors that may increase vulnerability and develop 50 mitigation actions to address those vulnerabilities. The plan successfully passed the Cal OES review and was approved by FEMA Region 9 on April 10, 2024 after the first review.

## RELEVANCE OF THE PROJECT

- Focused assessment of water/wastewater infrastructure
- Developed under FEMA’s new planning requirements
- Project completed in the last year

## KEY PERSONNEL

- Cindy Rolli
- Megan Brotherton
- Rob Flaner
- Carol Baumann

## CONTRACT AMOUNT

\$183,000

## SCHEDULE

May 2023 – April 2024

## CLIENT CONTACT

Ronald Khoury, Project Engineer  
(760) 398-2661

[RKhoury@cvwd.org](mailto:RKhoury@cvwd.org)

## FOLLOW LINK TO VIEW THE PLAN

<https://www.cvwd.org/611/Local-Hazard-Mitigation-Plan>

# **Attachment A | Black & Veatch Statements of Qualifications**



County of Hawai'i  
FY 2025 Professional Services

# Black & Veatch Corporation

## Statements of Qualification

Additional Company Information



**BLACK & VEATCH**

# Black & Veatch Corporation

## Statements of Qualification

### Table of Contents

- Alternative Funding and Financing
- Climate Adaptation & Resilience Planning
- Environmental Solutions
- Geospatial Solutions
- Nature-Based Solutions
- Program Management
- Resilient Stormwater Solutions
- Stream and Ecosystem Restoration Solutions
- Sustainability Solutions



County of Hawai'i  
FY 2025 Professional Services

# Statement of Qualification **Alternative Funding and Financing Services**

Additional Company Information



**BLACK & VEATCH**



# Alternative Funding and Financing Services

## Navigating Complexities to Fund Aging Infrastructure

Securing funding to upgrade and replace aging infrastructure is a major concern in the water sector. Passed in late 2021, the Bipartisan Infrastructure Law (BIL, also known as the Infrastructure Investment and Jobs Act, IIJA) is the largest federal investment in water in U.S. history. This act includes \$55 billion to make long-overdue improvements to drinking water, wastewater and stormwater infrastructure at a time when the sector is seeing a rising urgency in funding critical upgrades, replacing lead service lines,

addressing PFAS and other emerging contaminants and mitigating other issues associated with outdated systems.

Black & Veatch offers deep insights into various government funding programs, provides in-depth understanding of recent legislation, and maintains well-connected relationships with regulatory agencies such as the U.S. Environmental Protection Agency (EPA) and the Department of Energy (DOE). We help our clients navigate the increasingly complex funding landscape, better-positioning them to qualify for, apply for, and secure as much state and federal funding as possible.



**\$5 billion+**  
in secured  
funding



**\$13 billion+**  
in strategic funding  
evaluations



**\$750 million+**  
in secured FEMA  
HMA funding

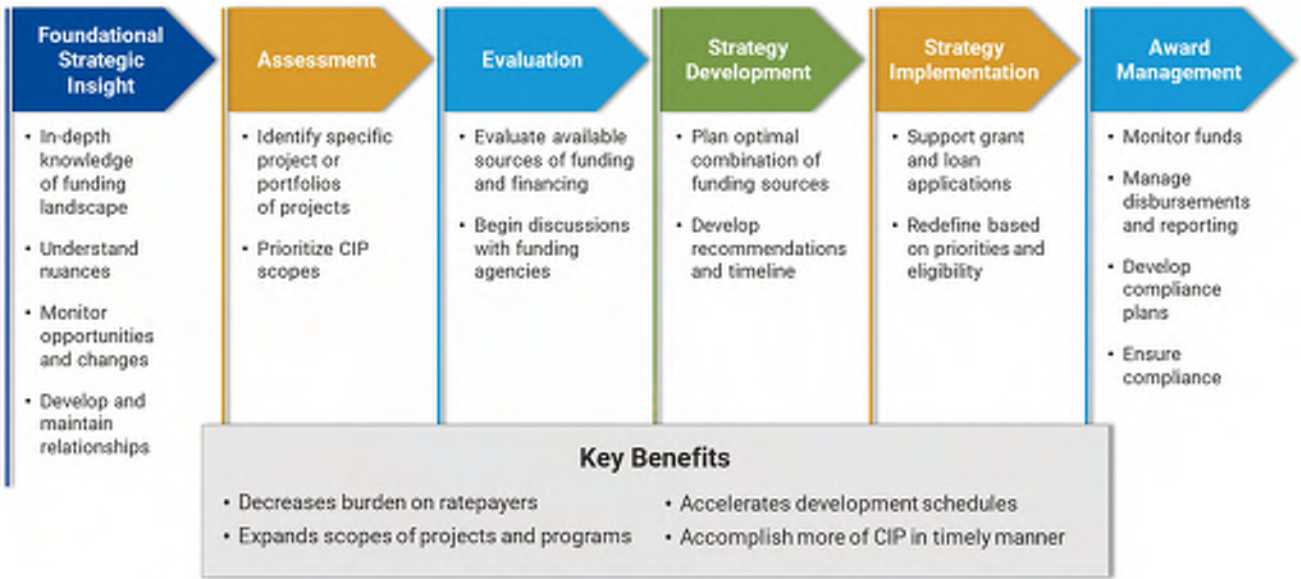


**100%**  
of WIFIA projects  
selected from LOI

# Our Comprehensive Approach

Working with Black & Veatch’s alternative funding team decreases the burden on ratepayers, expands the scope of projects and programs, accelerates project schedules, and enables utilities to accomplish more of their Capital Improvements Program (CIP) in a timely manner.

We offer the following expertise to our clients:



## Next Steps: Partner with Funding Experts

There’s a lot of money on the table, but it can be hard to reach. Many water utilities and local municipalities are choosing to collaborate with expert partners to jump through the hoops necessary to secure funding and comply with funding requirements. We know that water utilities have a healthy appetite for growing and accelerating infrastructure improvements that positively impact their communities and the quality of life of customers. We invite you to partner with our funding experts to get the most out of the money available to your organization.



Let’s Talk

Black & Veatch’s alternative funding and financing services are backed by over 100 years of experience delivering major infrastructure around the world. Visit [bv.com/contact-us](https://bv.com/contact-us) to take the next step on your alternative funding journey.

Francesca McCann  
Director, Alternative Funding and Financing  
Black & Veatch  
[McCannF@bv.com](mailto:McCannF@bv.com)  
+1 202-641-7622





County of Hawai'i  
FY 2025 Professional Services

# Statement of Qualification **Climate Adaptation & Resilience Planning**

Additional Company Information



**BLACK & VEATCH**

# Meet Black & Veatch

**Black & Veatch is a 100% employee-owned global engineering, procurement, consulting and construction company with a more than 100-year track record of innovation in sustainable infrastructure.**

Since 1915, we have helped our clients improve the lives of people around the world by addressing the resilience and reliability of our most important infrastructure assets.

Black & Veatch works with local, state and federal governments, service providers, and private industries to:

- Modernize energy, water and telecommunications infrastructure
- Protect and restore ecosystems
- Meet performance and resilience goals
- Reduce costs and mitigate risk

By partnering closely with clients and their stakeholders, we design affordable, practical and resilient climate actions. Our multidisciplinary teams are committed to delivering the outcomes you need and helping you adapt to changing demands and conditions.

## Climate Adaptation & Resilience Planning

Black & Veatch offers a full suite of services and professionals to guide utility, local, state and federal partners as they adapt to the changing climate and build community resilience.

***Our approach to adaptation and resilience planning is scalable and iterative – building capability and capacity each step of the way.***

Our goal is to implement our client's roadmap to achieve long-term resilience.



## Integrating Complimentary Expertise

Our planning solutions are grounded in managing future risk across Black & Veatch's solution areas.

- **Environmental Planning & Consulting**
- **Ecosystem Restoration**
- **Stormwater & Coastal Defense**
- **Heat, Wildfire & Drought**
- **Renewable Energy**
- **Facility Resilience**
- **Clean Transportation**
- **Digital & Cybersecurity**
- **Decarbonization**
- **Envision Certification**



**BLACK & VEATCH**

## OVERVIEW

FOUNDED IN  
**1915**



**10.6K+** GLOBAL WORKFORCE

**7,000+**  
ACTIVE PROJECTS  
**WORLD-WIDE**

**2022**  
**4.25B**  
REVENUE

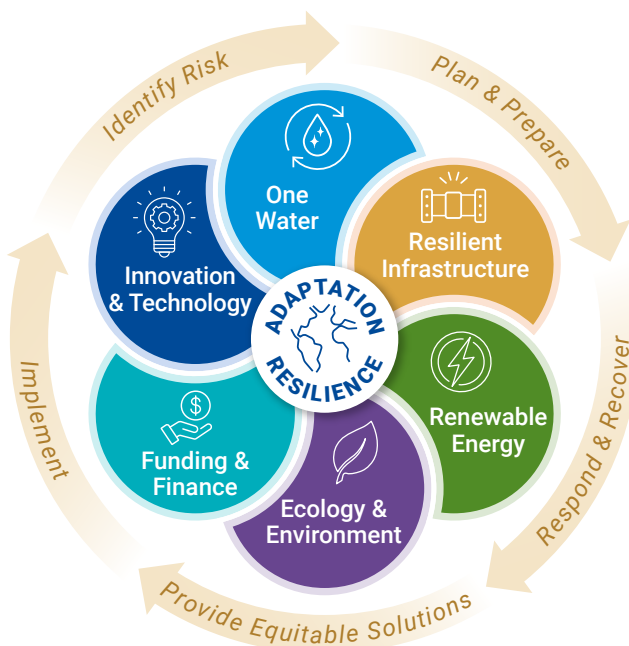
**9<sup>TH</sup>** LARGEST  
EMPLOYEE-OWNED  
COMPANY  
IN THE U.S.

**EMPLOYEE OWNED**

# Our Commitment to Sustainability & Resilience

## How Black & Veatch Advances Resilience

Our world is changing, the systems governing risk to our infrastructure and natural systems have shifted. Building communities, ecosystems and infrastructure resilience means understanding the hazards and disasters that have shaped our recent past and preparing for those that may affect our future. As illustrated here, Black & Veatch's Climate Adaptation and Resilience Planning Solutions focus on transformation at the systems level. We offer strategic planning services to help you prepare for financing, design, and put Black & Veatch's resources at our client's fingertips to create a seamless path toward implementation.



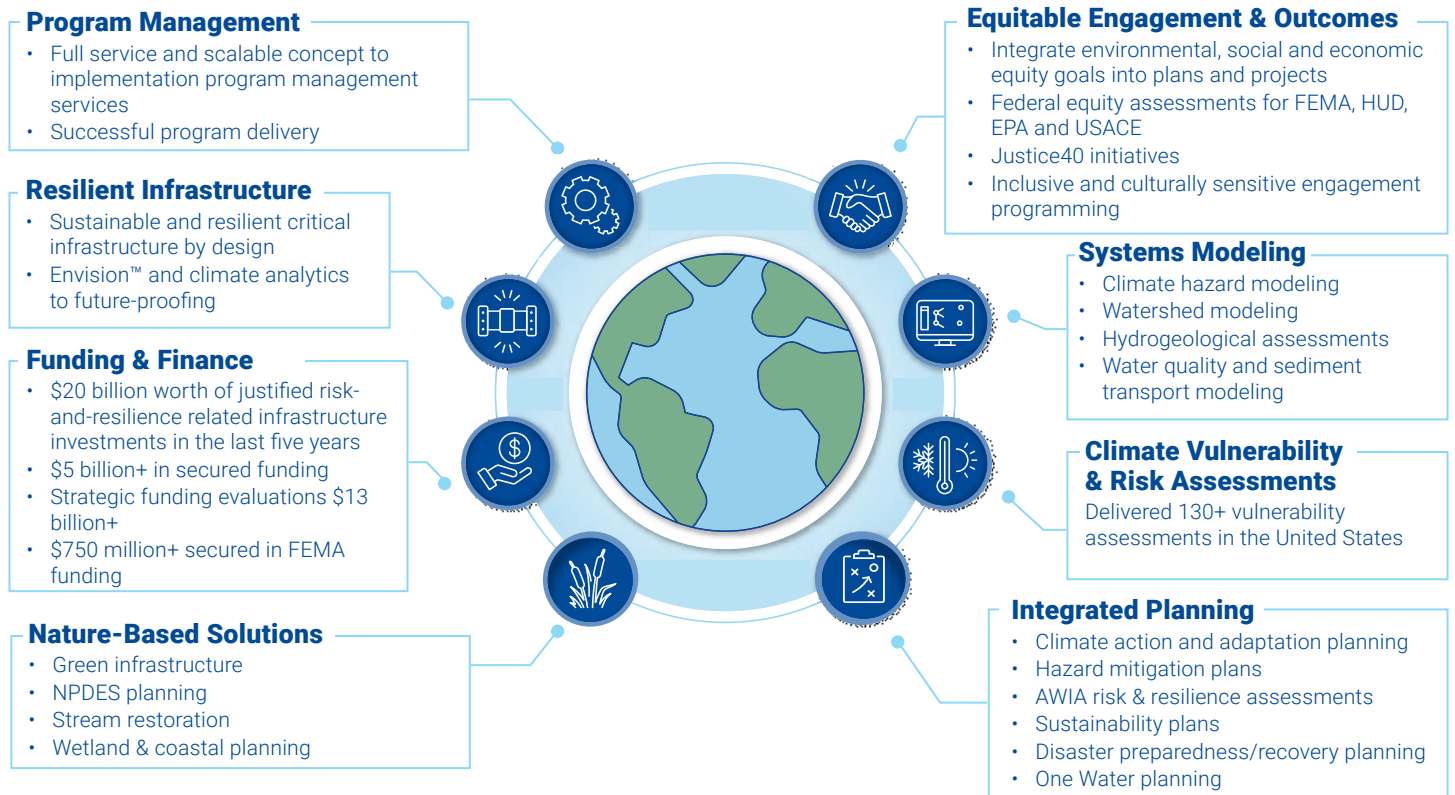
## We Are Here to Help You Navigate the Future

Climate Adaptation and Resilience Planning creates the framework for robust decision-making. At Black & Veatch, we help our clients mitigate risk by offering a broad range of resilience solutions that blend land use and hazard-mitigation planning with future-ready infrastructure and nature-based solutions. By identifying and reducing risk in vulnerable communities, our clients achieve more equitable outcomes. And when the plans are complete, we support clients with the expertise to execute their vision.

## Regional Resilience Planning Experts

| Technical Leaders      |                            |
|------------------------|----------------------------|
| Federal Resilience     | Jason Kirk                 |
| Coastal Infrastructure | Terry Hull<br>Joe Wagner   |
| Ecosystem Solutions    | John Kiefer<br>Laura Adams |
| Risk Analysis          | Carol Baumann              |
| Grants & Funding       | Alejandro Escobar          |
| Climate Solutions      | Bryce Weinand              |

# How Black & Veatch Delivers Resilience



## EQUITABLE ENGAGEMENT & OUTCOMES

### Foster inclusivity and address socioeconomic disparities

With increasing visibility and focus on environmental justice, Black & Veatch helps our clients create significant momentum to advance equity in communities that have experienced disinvestment.



*This project represents the next milestone for KC Water's Vision 2035, a forward-looking program that articulates the goal of realizing significant wet weather flow capture with both structural and green stormwater solutions. Black & Veatch's team employed innovative engagement tools for public meeting notifications.*



## SYSTEMS MODELING

### Apply science and engineering to address simple and complex processes

We have analyzed a wide variety of systems and infrastructure types, using tools like ArcGIS Storymaps, Envision™ and PowerBI.

Our modeling experience includes fundamental tasks such as monitoring, data research and interpretation, field reconnaissance, and community engagement.

Our team uses the following modeling types

- Greenhouse Gas Emission
- Lifecycle Analysis
- Hazard, Vulnerability, and Risk Analysis
- Coastal & Storm Surge Modeling
- Resilience Water Supply, Surface Water and Watershed Modeling



*Black & Veatch has developed various Power BI dashboards for clients, like this one in Atlanta that tracks key performance indicators, finances, and implementation metrics.*



## CLIMATE VULNERABILITY & RISK ANALYSIS

### Understand long-term impacts to inform decisions and investments

Black & Veatch utilizes climate and hazard analytics to assess community vulnerability to future risks. Our team uses these analytics to help communities develop effective adaptation and resilience strategies, such as building coastal defenses, implementing land-use planning, or relocating or retrofitting infrastructure and buildings.



*Climate analytics provided valuable insights into which areas were most vulnerable to sea level rise and flooding for the Peace River Manasota Water Supply Authority. These analytics helped them understand the potential impacts on and cross-dependence of critical infrastructure such as roads, bridges, and power and water supply systems.*



## INTEGRATED PLANNING

### Reduce risk and make communities resilient by transparent prioritization of equitable outcomes

We develop mitigation and adaptation strategies to ensure critical assets can withstand harm from potential hazards. Our strategies result in fortifying critical infrastructure and supporting biodiversity through protection of the natural environment.



*Forward-looking planning and management of potential hazards related to climate change is necessary to achieve coastal resilience. Mitigation plans, such as the 25-year framework of flood-mitigating strategies. Black & Veatch developed for the City of Charleston, provide a blueprint for how other coastal communities can advance their own resilience strategies.*



## NATURE- BASED SOLUTIONS

### Integrated strategies to reduce climate risks and protect natural ecosystems

Black & Veatch works with clients to use natural and nature-based features to improve water quality and help manage flooding across the Midwest, recharge groundwater in the West, mitigate urban heat island effects in the Great Lakes region, and protect shorelines and streams in the East. In each of these projects, we employ a multi-disciplinary approach to deliver transformative outcomes.



*Black & Veatch helped the City of Los Angeles restore Echo Park Lake to promote community sustainability, resilience and economic development. Our team developed green stormwater infrastructure, improved vegetation and habitat, and improved the water quality to meet TMDL requirements.*

### SPOTLIGHT:

Black & Veatch Project Awarded Largest FEMA Grant in Arizona History

*Weekes Wash Regional Flood Control Facility*



## FUNDING & FINANCE

### Leveraging diverse investment opportunities to implementation

Our team identifies funding options that accelerate mitigation projects and infrastructure improvements to positively impact customers' quality of life. Our detailed understanding of benefit-cost ratios opens multiple funding pathways, including FEMA BRIC, HUD CDBG, Environmental Impact Bonds (EIBs) and public/private partnerships.



*Black & Veatch helped the Unified Government (UG) of Wyandotte County, Kansas, secure WIFIA and SRF loans for a \$150 million stormwater management program. The program integrates stormwater, sewer, and green infrastructure projects to address frequent flooding, repair critical infrastructure, and improve water quality. Without alternative funding, the UG would have limited financial capacity of around \$15 million and consequently a scaled-down Capital Improvement Project.*



## RESILIENT INFRASTRUCTURE

### Climate resilient infrastructure saves both lives and money

We develop innovative strategies for resilient and sustainable infrastructure to ensure critical assets are well-protected and serve communities into the future. Our team designs roadmaps for smart infrastructure investments that will enable resilient services for residents and a positive return on investment to the community.



*Black & Veatch is developing and executing a resilient infrastructure program for the Village of Key Biscayne to address future risks. The project will realize a sustainable community with a high quality of life supported by infrastructure that provides economic, social and environmental benefits.*



## PROGRAM MANAGEMENT

### We bring adaptability, creativity and flexibility to programs

Our program management expertise spans the entire project lifecycle from conceptual planning, funding, and environmental advisory through design, construction, and operation. As your program evolves, we can scale our Program Management Model up or down, and adjust along the way to provide the right capacity for your team's unique needs.

# Project Experience



## Flooding & Sea Level Rise Strategy

*City of Charleston | Charleston, SC*



The City of Charleston's Flooding and Sea Level Rise Strategy provided the public with updated information on their challenges and ongoing responses to sea level rise and recurring flooding in the low country. The team collaborated with NOAA to integrate best data sources related to annual average sea level rise in the harbor and tidal flooding. This document provided the foundation for [Dutch Dialogues Charleston](#).



## Integrated / One Water Master Plan

*City of Winter Haven | Winter Haven, FL*



To address unnaturally steep slopes in eroding Florida gullies, the Black & Veatch team developed a design protocol for retrofitting step-pool stream morphology. With this approach, our team has stabilized over a dozen gullies at high-gradient legacy mine sites. The naturalized, stable conveyance stops gully progression, increases upstream fish passage, improves water quality, and provides a forested valley in a high-stress setting.



## Green Water Infrastructure at Daniel Morgan Boone Park

*KC Water | Kansas City, MO*



To reduce combined sewer overflows and provide green infrastructure to improve stormwater quality, Black and Veatch leads a multidisciplinary team to evaluate and provide solutions for the Town Fork Creek Watershed. The team and works closely with the community to address local concerns, while designing recreational and community amenities that complement KC Water's objectives.



## Integrated Water Plan

*City of Charleston | Charleston, SC*



Black & Veatch completed the City of Charleston's comprehensive Integrated Water Plan to ensure their water resources can adapt and thrive in the future. This plan is a guiding vision that embraces water, transforms threats into assets, preserves the unique history and character for which the City is known, and addresses long-standing environmental injustices.

*Icon reference: BV's Resilience Services, Page 4*



## Tampa Bay Water Master Plan

*Tampa Bay Water | Tampa Bay, FL*



Tampa Bay Water's Long-Term Master Plan included a sustainability assessment using the Institute for Sustainable Infrastructure Envision rating system. This vulnerability assessment considered flood zone location, storm surge analysis and sea level rise, and the detailed investigation of the groundwater recharge and reuse options.



## McCoy's Creek Restoration

*City of Jacksonville/Groundwork Jacksonville | Jacksonville, FL*



This project harnesses a three-mile stream corridor restoration design to transform an underperforming urban drainage system in an area challenged by pervasive flooding, soil and water pollution, and community retreat. Both nature-based and heavy civil and structural engineering solutions were layered to achieve the client's vision.



## Hazard Mitigation Plan Update

*Coachella Valley Water District | Coachella, CA*



Since 2019, the Coachella Valley Water District planning area experienced five major federal disaster declarations and numerous state and local declarations. Black & Veatch worked with the District and local stakeholders to identify factors that increase vulnerability and developed mitigation actions to address those vulnerabilities. As a result, they built a comprehensive plan that will serve as a blueprint for short- and long-term risk reduction.



## Everglades C-43 Reservoir

*South Florida Water Management District | Caloosahatchee River Basin, FL*



Black & Veatch worked with the South Florida Water Management District (SFWMD) on the engineering and design during the construction of this \$530 million project. A key component of the Comprehensive Everglades Restoration Plan, this project is being executed in partnership between USACE Jacksonville District and the SFWMD.



County of Hawai'i  
FY 2025 Professional Services

# Statement of Qualification **Environmental Solutions**

Additional Company Information



**BLACK & VEATCH**



### Addressing the Environmental Needs of Today

We understand managing environmental, climate, regulatory and reputational risks can be daunting. That's why we provide comprehensive solutions that mitigate risks and deliver positive environmental outcomes. Whether it's conserving land, protecting water and air quality, facilitating design and regulatory approval of new infrastructure, or tackling climate impacts, our team is committed to helping clients achieve their organizational and sustainability goals.

Black & Veatch professionals provide a broad array of solutions including:

- Air quality, acoustics, GHG lifecycle and climate impact modeling
- Natural and human environmental assessments and compensation strategies
- Nature-based remedies to improve watersheds and coastal resiliency
- Regulatory compliance and remediation for legacy and emerging contaminants, including PFAS
- Environmental justice and equity for historical and proposed infrastructure and land use decisions

**Black & Veatch is  
an employee-owned  
engineering, procurement,  
consulting and construction  
company with a 100-year  
legacy of innovation in  
sustainable infrastructure.**

### Solutions

- Site Selection, Zoning & Land Use
- Acoustics & Noise Control
- Air Regulation & Sciences
- Climate Solutions
- Land Services, Linear Routing & Siting
- Regulatory Compliance & Monitoring
- Emerging Contaminants (PFAS)
- Environmental Remediation
- Environmental Science (NEPA/CEQA)



## Project Experience

Black & Veatch delivers a wide range of environmental projects across a variety of industries.



**DG Fuels SAF Project.** Air permitting, licensing and construction of first-of-a-kind **sustainable aviation fuel** production facility in coastal Louisiana.



**Alliant Wind Projects.** Meeting sustainability goals and earning ISI **Envision Platinum** ratings by utilizing BV's environmental permitting, sustainability, water and renewables experts.



**Peace River Manasota Regional Water Supply Authority.** **Climate analytics** to assess impacts to critical drinking water infrastructure in Southwest Florida.



**Confidential Client.** Helping a global data hyperscaler meet sustainability targets by researching technology advancements in **embodied carbon** and benchmarking across the industry.



**Confidential Global Consumer Products Manufacturer.** Historic transformation of 120+ facilities by developing **modernized environmental compliance tracking** and reporting systems with our data analytics and compliance tools and expertise.



**US Department of Defense.** **NEPA compliance** review for an undisclosed mission, critical to our nation's defense.



Why Black & Veatch?

#16

ENR ranking for Top Environmental Firms

#9

ENR ranking in Air Quality/ Clean Energy

100+

Years of Power and Water Leadership

#10

ENR ranking in Construction/ Remediation



Integrated Solutions Across the Project Lifecycle

In a time of limited budgets, changing regulations and shifting stakeholder expectations, our multi-disciplinary teams meet you where you are. We combine dedicated environmental consultants and scientists with industry-recognized engineering and construction teams to deliver positive environmental outcomes.

Learn more at [bv.com/environmental](https://bv.com/environmental).





County of Hawai'i  
FY 2025 Professional Services

# Statement of Qualification **Geospatial Solutions**

Additional Company Information



**BLACK & VEATCH**

# Meet Black & Veatch

**Black & Veatch is a 100% employee-owned global engineering, procurement, consulting and construction company with a more than 100-year track record of innovation in sustainable infrastructure.**

Since 1915, we have helped our clients improve the lives of people around the world by addressing the resilience and reliability of our most important infrastructure assets.

Black & Veatch works with local, state and federal governments, service providers, and private industries to:

- modernize energy, water and telecommunications infrastructure
- meet performance and resilience goals
- reduce costs and mitigate risk

By partnering closely with clients and their stakeholders, we design affordable, practical and resilient infrastructure. Our multidisciplinary teams are committed to delivering the outcomes your clients need and helping them adapt to changing demands and conditions.

## Transforming Clients' Digital Information for the Future

Our Information Solutions group is dedicated to improving the efficiency and productivity of our clients through the use of digital tools. We help clients streamline processes and automate tasks, digitize assets and manage those assets effectively. With more accessible data, our clients see benefits such as improved decision-making, clearer communications with stakeholders, and greater cost-savings in projects.



**BLACK & VEATCH**

### OVERVIEW

**100+**   
YEARS CREATING  
**WATER**  
INFRASTRUCTURE   
  


**8<sup>TH</sup>** **LARGEST**  
100% EMPLOYEE-OWNED  
**COMPANY**  
IN THE U.S.

**12,000+**   
GLOBAL WORKFORCE

**7,000+**  
ACTIVE PROJECTS  
**WORLD-WIDE** 

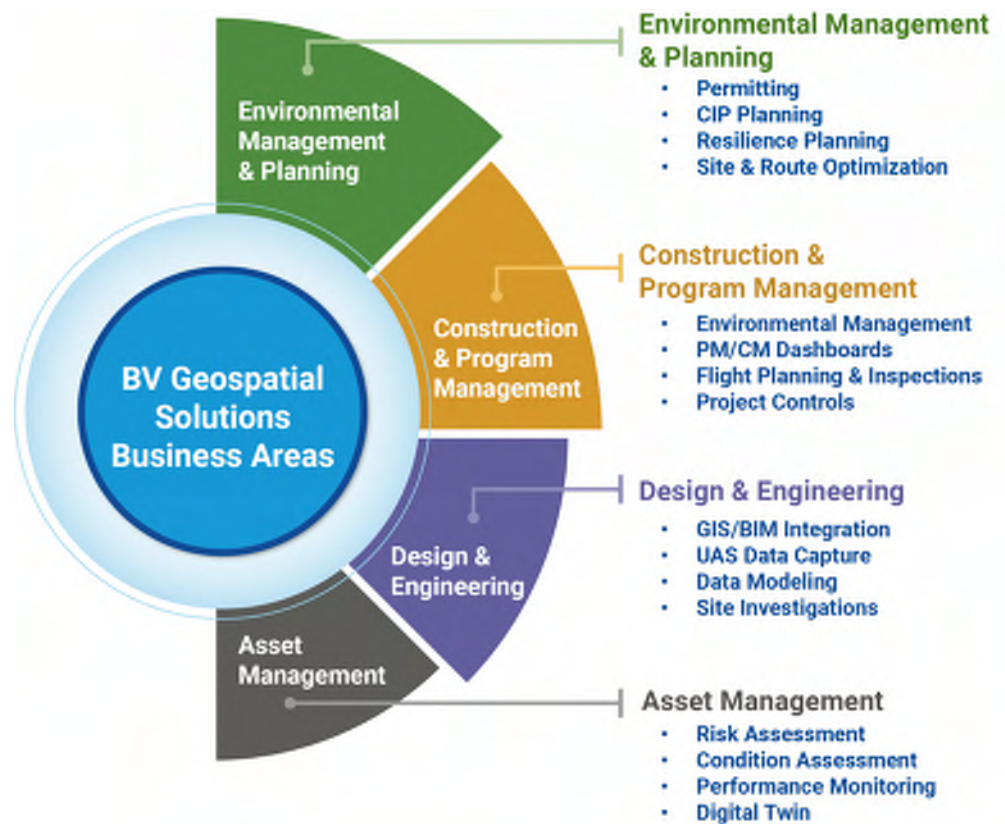
**2023**  
 **4.7B**  
REVENUE

# Geospatial Solutions

**Our Geospatial Solutions group provides organizations with easier ways to organize large volumes of spatially enabled data, offering comprehensive consulting services.**

Geospatial Solutions gathers, interprets, and communicates spatial data. Our Geospatial Solutions team provides innovative data management and spatial analytics for all aspects of project engineering and client support. Our solutions provide clients with easier ways to organize the large volumes of spatially-enabled data associated with asset management, capital improvement planning, data analytics, and more.

By understanding geospatial data better, clients can provide transparent status reporting to stakeholders, manage critical infrastructure more effectively and plan more efficiently.



## ESRI PARTNER FOR 25+ YEARS

"Our collaboration and engagement in the Esri Partner Network helps us deliver the latest in digital infrastructure solutions to our clients."

*Mark Seastead, Information Solutions Lead*



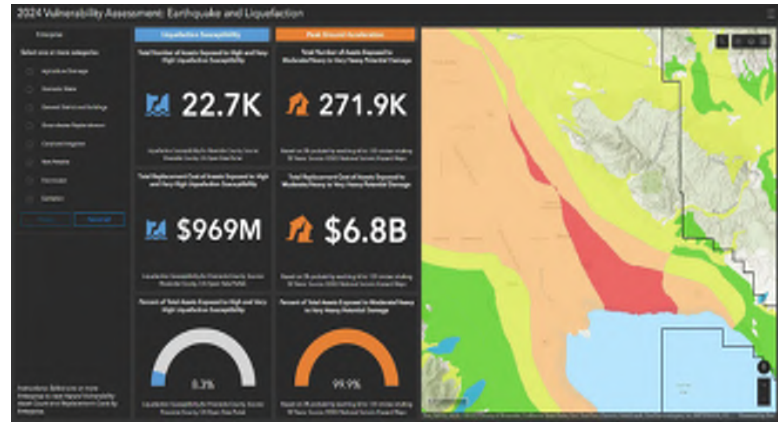
**Read about our partnership with Esri:**

"Black & Veatch Earns Esri State and Local Government Specialty Designation."



# Technology Solutions

- Technology Assessments
- ArcGIS Enterprise Deployment & Support
- System Architecture & Design
- 3rd-party Software Integration
- Hosting Services
- Data Warehousing
- Cybersecurity & Accessibility



Client's Dashboard: Vulnerability to Earthquakes

## Solutions Tailored to Our Clients

### CAPTURE



Drone/UAS Gap Assessments  
AI/ML Processed Capture  
Data Quality Assessment  
Mobile Asset  
Mapping/Inventory  
Asset Hierarchy Creation  
Utility Network Migration  
Extract-Transform-Load (ETL)

1

### MANAGE



Digital Transformation  
GIS Strategy & Planning  
Geospatial  
Program Management  
Data Governance  
Business Process Automation  
EAMS Optimization  
Business Case Development

2

### VISUALIZE



Data Analytics, Dashboards & Systems Integration  
Asset Management  
Risk Assessment  
Custom Applications  
Data Management  
Spatial Analysis

- AI/ML Predictive Models
- Vertical Asset Modeling
- Environmental Analysis
- Site Selection
- Hazard Mitigation

3

# Our Solutions Leading Clients into Tomorrow

## CUTTING-EDGE GEOSPATIAL ARTIFICIAL INTELLIGENCE



### Digitized Utilities Inventory Tool

*City of Palmdale, Palmdale, CA*

Black & Veatch's Strategy and Innovations team built a tool to integrate asset data collected through automated asset recognition (AI) into the Lucity program. Collecting data by AI, and integrating that data automatically, provided time- and cost-saving measures for the client.



## DIGITAL INFRASTRUCTURE MODERNIZATION



### GIS Enterprise Deployment

*City of St. Augustine, St. Augustine, FL*

The Geospatial Solutions group provides ongoing support and upgrades for the City to ensure their GIS infrastructure is up-to-date after they migrated their on-premises GIS and CMMS servers to a cloud-hosted environment to improve system performance and user experience. The migration included version upgrades for both ArcGIS Enterprise and Cityworks AMS & PLL. Once the server migration was complete, the City went live with an implementation of Cityworks PLL to manage its building permits and code enforcement cases.



## RELIABLE SOLUTIONS FOR LONG-TERM CLIENTS



### Delta Conveyance System

*California Department of Water Resources (DWR), San Joaquin County, CA*

Geospatial Solutions group optimized the design of a 30-mile water conveyance system serving 27 million people in southern California.

The engineering, geotechnical, real estate, and environmental teams involved in this landmark project have worked for 13 years with our Geospatial Solutions team, assessing program factors using the Esri solutions suite.



# Project Experience



## GIS Utility Network Migration

*The Regional Municipality of Niagara*

Black & Veatch developed a Utility Network Migration Road Map for the Region, which involved a comprehensive review of the Region’s existing GIS enterprise environments, including GIS data models, editing workflows, data engineering workflows for migrating legacy GIS networks from 11 surrounding municipalities, and existing integrations with other businesses the Region uses to support the modernization of their GIS infrastructure.



## Enterprise GIS Implementation and Hosting

*Clifton Water District, Grand Junction, CO*

Black & Veatch implemented an Enterprise Geographic Information System (GIS) to capture the Clifton Water District’s linear assets, incorporate all maintenance activities, and associate relevant data with each asset. The team provided custom tools such as valve isolation & system tracing and custom applications to capture maintenance activities such as hydrant flushing and digitization of linear assets.



## Asset Inventory, Hazard Mitigation Planning, and Related Services

*Coachella Valley Water District, Coachella Valley, CA*

This Black & Veatch team helped perform inventory, and assess condition and risk, for over \$1.5 billion of infrastructure, including distribution, wastewater, stormwater, and irrigation to capture baseline inventory information for the District’s new EAMS. The project also included advanced network analysis, routing to optimize field inspections, asset failure risk assessments, and recently, a Hazard Mitigation Plan update that leverages the latest scientific data.



## Pure Water Project: Unmanned Aerial System (UAS) Services

*City of San Diego, San Diego, CA*

The Pure Water Project, constructed by Black & Veatch, will provide one-third of San Diego’s water supply when completed. To augment traditional data collection strategies, this team is providing UAS support services, which includes working with our engineers to provide time series construction documentation and earthwork volume calculations throughout construction for the City’s Pure Water facilities.





## Geospatial Program Management

*City of Memphis, Memphis, TN*

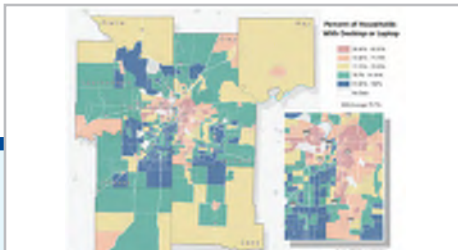
Black & Veatch is providing comprehensive Program Management of the City's \$350 million Sewer Assessment and Rehabilitation Plan. We also provide geospatial data management and modeling/analyses, along with the development and management of the collection system; a monitoring, operations and maintenance program; and regulatory reporting. Esri Enterprise apps and web maps are used, including a custom ArcGIS Enterprise "Inspection Tracker" web app.



## Lead and Copper Rule Revision (LCRR)

*Winston-Salem/Forsyth County Utilities, NC*

Black & Veatch gathered LCRR task data into an ArcGIS Enterprise platform and built various dashboards to track project status, share curated information, and plan for the next phases of the project. Because of the need for efficient information collection, we developed web-based customer surveys using Survey123 to ensure that all levels of customer notification and field investigations are tracked and completed.



## Mid-America Regional Council Digital Equity Project

*Mid-America Regional Council (MARC), Kansas City Metropolitan Area (KS/MO)*

Black & Veatch worked with MARC to identify areas in the Kansas City region with limited to no broadband access, or where costs were too high for locals to afford. GIS mapping and spatial analytics were used to identify these underserved communities to target areas for broadband expansion. Ultimately, the findings will help local governments and community organizations identify areas of greatest investment need to ensure digital equity across the region.



## Enterprise Asset Management System (EAMS) Implementation

*City of Clearwater, Clearwater, FL*

The Geospatial Solutions team is implementing a new EAMS, Cityworks, for the City of Clearwater in west central Florida. This system will help establish a strategic asset management program for City departments and facilities. The project will integrate the City's utility billing, SCADA, citizen engagement, finance, CCTV, LIMS, and document management.





County of Hawai'i  
FY 2025 Professional Services

# Statement of Qualification **Nature-Based Solutions**

Additional Company Information



**BLACK & VEATCH**

# Meet Black & Veatch

**Black & Veatch is an employee-owned engineering, procurement, consulting and construction company with a track record of more than 100 years of innovation in sustainable infrastructure.**

We plan, design and build the energy, water and telecommunications systems that strengthen community resilience, reduce carbon footprints, drive sustainability and enable growth. Our global professionals are committed to serving as your trusted partner with innovative, end-to-end services and full project delivery solutions that are Building a World of Difference®. Regardless of the scope or size of the project, our execution is centered on safety and characterized by cost and schedule certainty.

## Our Commitment to Sustainability

Black & Veatch brings regional and national leaders recognized for promoting sustainability, livability, green infrastructure and environmental conservation.

Our company is committed to understanding and analyzing holistic project benefits to ensure they deliver impact. This approach, aligned with the Institute for Sustainable Infrastructure's Envision® framework, works to minimize infrastructure impact on the natural world and the public while improving long-term community health and safety. Black & Veatch works with clients to affirm their commitments to promote sustainability, while meeting project sustainability and Envision® goals. Black & Veatch's sustainability strategy, [Accelerate Zero](#), outlines the company's environmental, societal and governance policies, while elevating tangible progress to a cleaner, more equitable and prosperous world.



# Nature-Based Solutions

**Black & Veatch is advancing nature-based solutions across the country – from master planning to design to managing construction.**

Black & Veatch's multi-disciplinary team is nationally recognized for its ability to deliver cost-effective, integrated solutions for projects and programs large and small. We blend engineering, science, urban planning, permitting, and policy experience to tailor solutions that provide multiple complimentary benefits.

This team works across the country and bring a deep appreciation of how the challenges of climate change are specific to each region. They also understand how to integrate natural and ecological processes to mitigate and adapt to these changes.

Black & Veatch works with clients to use **natural and nature-based features** to improve water quality and help manage flooding across the Midwest, recharge groundwater in the West, mitigate urban heat island effects in the Great Lakes region, and protect shorelines and streams. In each of these projects, we employ a multi-disciplinary approach to deliver transformative outcomes.





*Wetland and lake restoration in St. Peters, Missouri neighborhood.*

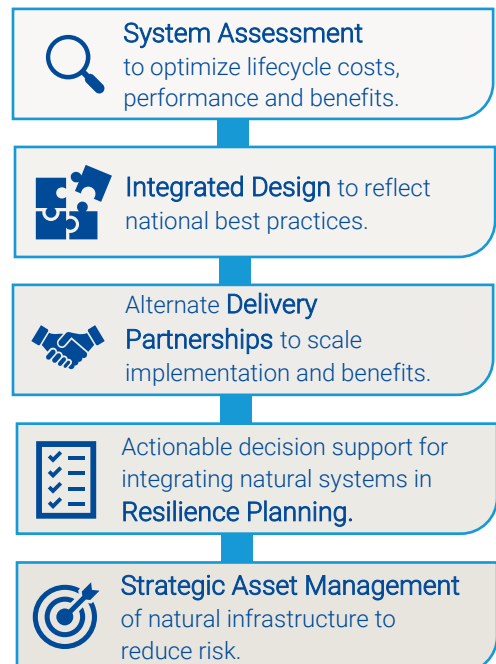
## How We Deliver Benefits

Black & Veatch delivers nature-based solutions to public and private clients of every size with a focus on transparent outcomes, innovation and sustainability. This multi-disciplinary team understands the complexity of integrating infrastructure and natural systems to:

- Elevate resilient communities and ecosystems
- Enable sustainable urban stormwater management
- Protect and diversify water supplies
- Transform water treatment
- Reduce risk
- Inspire community acceptance

From intentional planning to inspired design, this Black & Veatch team understands how to characterize and maximize the benefits of nature-based solutions. Our experience with community-based partnerships and strategic asset management enables deliverables that maximize existing infrastructure, align with stakeholder priorities and minimize risk.

## Benefits



## Nature is Resilient Infrastructure



*Constructed wetland to manage stormwater as part of the Fresh Coast Protection Partnership in Milwaukee, Wisconsin.*

### Natural systems are part of a community's infrastructure.

Black & Veatch brings decades of experience working with communities across the U.S. to plan, design and implement nature-based solutions that help manage stormwater, recharge groundwater, and improve water quality. We are committed to restoring the integrity of natural systems, helping communities meet regulatory requirements, and delivering positive community-centered benefits. Our team leads the development of national best practices, applies asset management frameworks to natural resources, and integrates grey and natural infrastructure to deliver resilient solutions. Building on a foundation of enabling sustainable stormwater management, Black & Veatch understands the potential nature-based solutions can make to support resilient communities and ecosystems by:

#### Advancing Resilience

We bring tailored expertise to support resilience efforts through strategic planning and system assessment, actionable studies that integrate funding recommendations, innovative design strategies such as living shorelines, natural stream design and constructed wetlands.

#### Diversifying Water Supplies

Recognizing rain as a resource, our team understands how to evaluate the potential of systems to capture and recharge stormwater runoff to secure long-term water resources.

#### Transforming Water Treatment

Black & Veatch engages multi-disciplinary teams to identify the best solutions for a given challenge. When it comes to treatment, our experts have both designed and managed wetlands for polishing effluent.

## Our Areas of Focus

### Resilience

Black & Veatch has been a proponent and strong advocate for resilient and sustainable infrastructure for decades – long before “resilience” became a catchword. We have completed vulnerability and risk adaptation studies on hundreds of facilities across the U.S. In 2023, we published [a common framework to guide the planning and implementation of resilient water infrastructure](#) via the Water Research Foundation. This team has completed AWIA risk assessments for dozens of clients and continue to support this important focus area across the full spectrum of Black & Veatch’s core services. We also understand the complex interdependencies between sectors, threats, outcomes and available adaptation solutions.



### One Water

Creating sustainable One Water solutions is a long-term mission of Black & Veatch. One Water is a collaborative, innovative, and integrated approach to optimize the sustainability of our essential water resources. The outcome enhances quality of life by promoting vibrant and engaged community participation while encouraging responsible stewardship of social, economic and environmental resources.



### Implementation Spectrum

Using this spectrum, the Black & Veatch team is uniquely qualified to deliver the comprehensive scope of successful nature-based solutions:

- **Funding & Finance.** Black & Veatch has the expertise and experience to identify and pursue various funding alternatives including the turnkey development of programs. We lead the Water Environment Federation’s Stormwater Community Funding & Finance focus group and publish the biannual National Stormwater Utility Survey. This team actively monitors how the market creatively funds the infrastructure needs.
- **Planning & Design.** Black & Veatch is well recognized for our ability to innovate and develop design concepts that incorporate state-of-the-art practices including smart infrastructure and dynamic/risk integrated asset management planning and capital improvement plan development. As a designer, builder and asset manager, we naturally understand the critical need to develop plans that are constructible, functional and easy to operate and maintain.
- **Infrastructure Delivery.** Black & Veatch has the unique ability and requisite relationships to bring low-risk, collaborative Project and program delivery alternatives to efficiently deliver distributed infrastructure at a regional-scale.

## Elevating Equity Across Sectors

By increasing visibility and focus on environmental justice issues, Black & Veatch clients are creating significant momentum to advance equity in communities that have experienced disinvestment and where exclusion is evident. However, sustainability strategies are complex and organizations often don't have a clear understanding of how to ensure goals like environmental justice and equity are adequately planned and achieved.

As a leader in the innovation, infrastructure, engineering, and environmental sector, Black & Veatch supports both public and private sector clients by providing a range of solutions that advance all project outcomes. This work includes elevating regulatory requirements while being mindful of the health and well-being of impacted communities and defining environmental justice impacts early in the project to plan for successful outcomes.

### Black & Veatch ESG Goals

Environmental, social and governance goals should be integrated into broader organizational strategies. Identifying and quantifying the impact not only on equity but also on the organization's triple bottom line is an important step to analyzing potential projects and investments.



#### **Visible Amenity. Invisible Infrastructure. Invaluable Benefit.**

Black & Veatch partnered with the City of Omaha in Nebraska to design and implement a green infrastructure system that captures stormwater to decrease stress on the combined sewer system downstream and improve water quality. The design includes an expansive community park for families, fishing enthusiasts and health-minded people from all over the city. Through community engagement during the planning process, the city ensured the park could be leveraged as a resource for nearby community organizations and citizens alike.

# Project Experience

## Strategic Planning



### Green Infrastructure Priority Action Plan Wilmington, DE

To help the city meet long-term goals of reducing combined sewer overflows and nutrients entering natural waterways, the team used existing GIS data and stormwater modeling to develop a Priority Action Plan. The plan included recommendations for target sewersheds and a prioritized list of locations for green stormwater infrastructure on public property with preliminary design and construction estimates.



### Green Streets Capital Improvement Plan Beverly Hills, CA

Black & Veatch prioritized this Capital Improvement Program with a budget and implementation timeline using Low Impact Development strategies, green streets and regional projects to capture 87 acre-feet of stormwater runoff. This project helps Beverly Hills comply with the Ballona Creek Enhanced Watershed Management Plan.

## Inspired Design



### Daniel Morgan Boone Park GSI Design Kansas City, MO

Black & Veatch is currently advancing design of Daniel Morgan Boone Park, the largest green infrastructure project for Kansas City Water's Smart Sewer Program. This project is focused on consent decree compliance, elevating engagement to inform the design process, and using infrastructure investment as a catalyst to support communities and development.



### Combined Sewer Overflow (CSO) Improvements Study Grand Rapids, MI

To advance consent decree compliance for the City of Grand Rapids, Black & Veatch integrated traditional and green infrastructure strategies to complete the design and construction for a majority of the city's CSO projects. Green infrastructure components included: hydrodynamic separators and underground infiltration basins, pervious pavements, and traffic circle bioretention/infiltration areas.

## Community-Based Partnerships



### Fresh Coast Protection Partnership Milwaukee, WI

With an emphasis on community and developing local contractor capacity, the Fresh Coast Protection Partnership has delivered over a dozen projects that include constructed wetlands, bioretention, permeable pavement and native vegetation. Black & Veatch manages the design and construction, coordinating across a team of local engineering and construction firms.



### Clean Water Partnership Prince George's County, MD

Black & Veatch serves as the production and construction management team to deliver projects in the Clean Water Partnership, a program centered on community-based green stormwater infrastructure, treating the runoff from nearly 6,000 impervious acres and helping to bring the county back into regulatory compliance. This partnership is achieving that goal with local workforce participation, helping to fuel the local economy.

# Nature-based Solutions Experience Matrix

|                                                                                                                     | SERVICES            |        |                       |                 | NATURE-BASED SOLUTIONS     |                           |                   |                    |                             |                     |                      |                        |
|---------------------------------------------------------------------------------------------------------------------|---------------------|--------|-----------------------|-----------------|----------------------------|---------------------------|-------------------|--------------------|-----------------------------|---------------------|----------------------|------------------------|
|                                                                                                                     | Integrated Planning | Design | Construction Services | Funding Support | Construction Wetland/Lakes | Bioretention/Infiltration | Pervious Pavement | Subsurface Storage | Coastal & Living Shorelines | Stream & Floodplain | Carbon Sequestration | Conservation Easements |
| <b>Clean Water Partnership</b> , Prince George's County, MD                                                         | 🔹                   | 🔹      | 🔹                     | 🔹               |                            | 🔹                         | 🔹                 |                    | 🔹                           | 🔹                   |                      |                        |
| <b>Fresh Coast Protection Partnership</b> , Milwaukee, WI                                                           | 🔹                   | 🔹      | 🔹                     | 🔹               | 🔹                          | 🔹                         | 🔹                 | 🔹                  |                             | 🔹                   |                      | 🔹                      |
| <b>Nature-based Adaptation Strategies Study</b> , Mississippi River Cities and Towns Initiative                     | 🔹                   |        |                       |                 | 🔹                          |                           |                   |                    |                             | 🔹                   |                      | 🔹                      |
| <b>Belt Line Green Infrastructure Program Management</b> , Memphis, TN                                              | 🔹                   | 🔹      |                       |                 |                            | 🔹                         | 🔹                 | 🔹                  |                             | 🔹                   |                      |                        |
| <b>Mill Creek Park Green Infrastructure Concept Design</b> , Kansas City, MO                                        | 🔹                   |        |                       |                 |                            | 🔹                         |                   | 🔹                  |                             |                     | 🔹                    |                        |
| <b>Daniel Morgan Boone Park GSI Design</b> , Kansas City, MO                                                        | 🔹                   | 🔹      |                       |                 | 🔹                          |                           |                   |                    |                             |                     |                      |                        |
| <b>Westport Plaza Integrated Stormwater Plan</b> , Kansas City, MO                                                  | 🔹                   |        |                       |                 |                            | 🔹                         |                   | 🔹                  |                             |                     |                      |                        |
| <b>Muddy Creek Integrated Watershed Action Plan</b> , Cincinnati, OH                                                | 🔹                   |        |                       |                 |                            | 🔹                         |                   | 🔹                  |                             |                     |                      |                        |
| <b>ARRA Green Infrastructure Demonstration</b> , Mission, KS                                                        | 🔹                   | 🔹      | 🔹                     |                 |                            | 🔹                         |                   |                    |                             |                     |                      |                        |
| <b>Alternative Futures Analysis: LID Redevelopment</b> , Mission, KS                                                | 🔹                   |        |                       |                 |                            |                           |                   |                    |                             |                     |                      |                        |
| <b>Rock Creek Watershed BMP Plan</b> , Mission, KS                                                                  | 🔹                   |        |                       |                 |                            | 🔹                         |                   |                    |                             | 🔹                   |                      |                        |
| <b>Low Impact Development Manual, O&amp;M Optimization Strategy</b> , Tulsa, OK                                     | 🔹                   |        |                       |                 |                            |                           |                   |                    |                             |                     |                      |                        |
| <b>Echo Park Lake Restoration</b> , Los Angeles, CA                                                                 | 🔹                   | 🔹      | 🔹                     |                 |                            |                           |                   |                    |                             |                     |                      |                        |
| <b>Green Infrastructure Program Development &amp; Priority Action Plan</b> , Wilmington, DE                         | 🔹                   | 🔹      |                       |                 |                            | 🔹                         | 🔹                 |                    |                             |                     |                      |                        |
| <b>Green Streets Capital Improvement Program and Regional Stormwater BMP at La Cienega Park</b> , Beverly Hills, CA | 🔹                   |        |                       |                 |                            | 🔹                         |                   |                    |                             |                     |                      |                        |
| <b>Rain Garden Program and Standards Development</b> , Ft. Wayne, IN                                                | 🔹                   |        |                       |                 |                            | 🔹                         |                   |                    |                             |                     |                      |                        |
| <b>BMP Manual Development</b> , Kansas City, MO                                                                     | 🔹                   |        |                       |                 | 🔹                          | 🔹                         | 🔹                 | 🔹                  |                             |                     |                      |                        |
| <b>Penn Valley Park</b> , Kansas City, MO                                                                           | 🔹                   | 🔹      | 🔹                     |                 | 🔹                          |                           |                   |                    |                             |                     |                      |                        |
| <b>Lake Lenexa and Blackhoof Park</b> , Lenexa, KS                                                                  | 🔹                   | 🔹      | 🔹                     |                 | 🔹                          |                           |                   |                    |                             |                     |                      |                        |
| <b>Integrated Stormwater Planning for Healthy Streams, Economic Vitality, Sustainable Growth</b> , St. Peters, MO   | 🔹                   | 🔹      | 🔹                     |                 | 🔹                          |                           |                   |                    |                             | 🔹                   |                      |                        |
| <b>Lake James to Fontenelle Park CSO Project</b> , Omaha, NE                                                        | 🔹                   | 🔹      | 🔹                     |                 | 🔹                          |                           |                   |                    |                             |                     |                      |                        |
| <b>Green Infrastructure Implementation, CSO Improvement Study</b> , Grand Rapids, MI                                | 🔹                   | 🔹      | 🔹                     |                 |                            | 🔹                         | 🔹                 |                    |                             |                     |                      |                        |
| <b>Clear Creek Stream Geomorphic Assessment</b> , Lenexa, KS                                                        | 🔹                   |        |                       |                 |                            |                           |                   |                    |                             |                     | 🔹                    |                        |
| <b>Blacksnake Creek Stormwater Separation</b> , St. Joseph, MO                                                      | 🔹                   | 🔹      | 🔹                     | 🔹               |                            |                           |                   |                    |                             | 🔹                   |                      |                        |
| <b>Trinity River Authority Geomorphic Survey &amp; Prioritization</b> , Dallas, TX                                  | 🔹                   |        |                       |                 |                            |                           |                   |                    |                             | 🔹                   |                      |                        |
| <b>Saunders Creek Stream Restoration</b> , Mt. Pleasant, IA                                                         | 🔹                   | 🔹      | 🔹                     |                 |                            |                           |                   |                    |                             | 🔹                   |                      |                        |
| <b>Soldier Creek USACE Stream Stabilization and Restoration</b> , Topeka, KS                                        | 🔹                   | 🔹      | 🔹                     |                 |                            |                           |                   |                    |                             | 🔹                   |                      |                        |
| <b>Deer Creek Stream Stabilization &amp; Flood Control</b> , Ford Heights, IL                                       | 🔹                   | 🔹      | 🔹                     |                 |                            |                           |                   |                    |                             | 🔹                   |                      |                        |
| <b>WSSC Stream Restoration Project</b> , Laurel, MD                                                                 | 🔹                   | 🔹      | 🔹                     |                 |                            |                           |                   |                    |                             | 🔹                   |                      |                        |
| <b>Orlando Easterly Wetlands Reclamation*</b> , Orlando, FL                                                         |                     |        |                       |                 | 🔹                          |                           |                   |                    |                             |                     |                      |                        |
| <b>Brevard County Viera Wetlands*</b> , Viera, FL                                                                   |                     |        |                       |                 | 🔹                          |                           |                   |                    |                             |                     |                      |                        |
| <b>Constructed Wetlands and Reuse*</b> , Goldsboro, NC                                                              |                     |        |                       |                 | 🔹                          |                           |                   |                    |                             |                     |                      |                        |
| <b>Glendale WWTP Wetlands System*</b> , Lakeland, FL                                                                |                     |        |                       |                 | 🔹                          |                           |                   |                    |                             |                     |                      |                        |
| * Team member experience outside of BV                                                                              |                     |        |                       |                 |                            |                           |                   |                    |                             |                     |                      |                        |



County of Hawai'i  
FY 2025 Professional Services

# Statement of Qualification **Program Management**

Additional Company Information





# Seasoned Experts and Vast Resources to Deliver Any Program

Black & Veatch's proven program management model fosters timely deliverables and supports the entire program life cycle, from concept through commissioning.

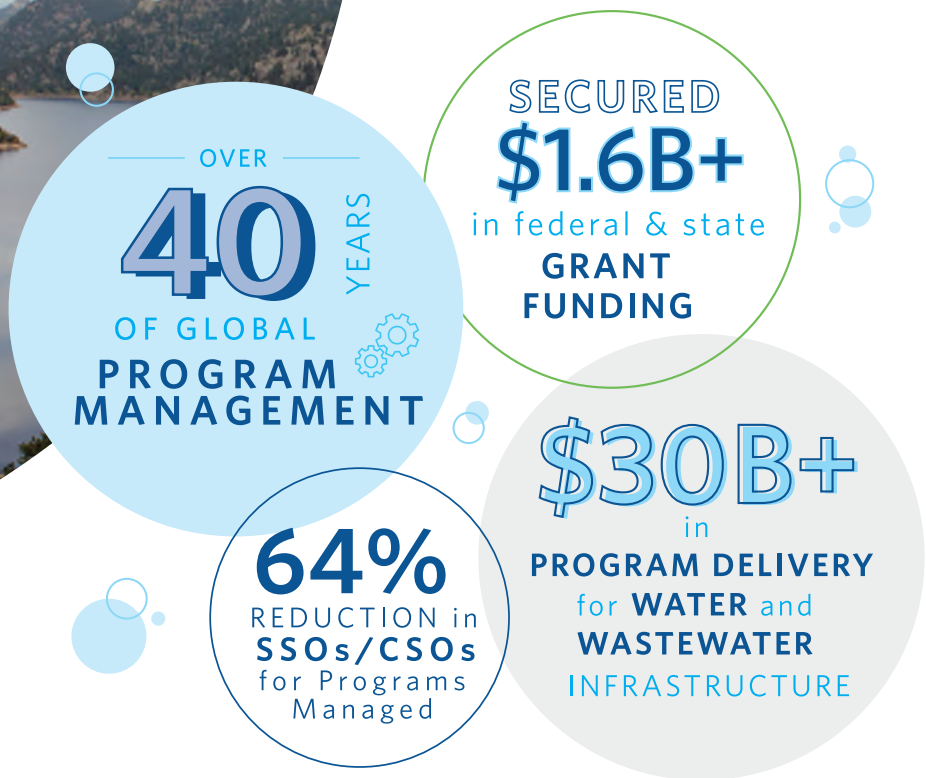
Black & Veatch is committed to help you deliver sustainable, resilient and reliable infrastructure that benefits the diverse communities and customers you serve. Our professionals partner with you and your staff to forge an integrated team that defines and then manages the process to ensure successful completion of water, power and communications programs. We focus on managing risks and minimizing the economic, financial and community impacts to deliver quality solutions that connect infrastructure, sustainability and communities.

## Ensuring Sustainable Solutions

Sustainability is ingrained into our company's strategy, purpose and the services we provide. As a signatory of the United Nations Global Compact, CEO Water Mandate and Caring for



the Climate pledges, Black & Veatch's innovative solutions integrate the social, environmental and governance (or triple bottom line) to maximize the value to you, your communities and your customers.



## Caring for Your Communities

As an employee owned company, one of Black & Veatch's core values is stewardship. We understand that we will impact the communities where our work will be built. Our team works with your staff to develop engagement strategies and plans with the affected community's needs in mind. Our company also focuses on tangible social and environmental solutions to enhance the benefits to your communities. Enhancements include community benefits that range from street beautifications to workforce and economic development programs.

In addition, for every assignment, Black & Veatch incorporates our zero-incident safety culture that puts people first – yours, ours and the public.

## Connecting Infrastructure

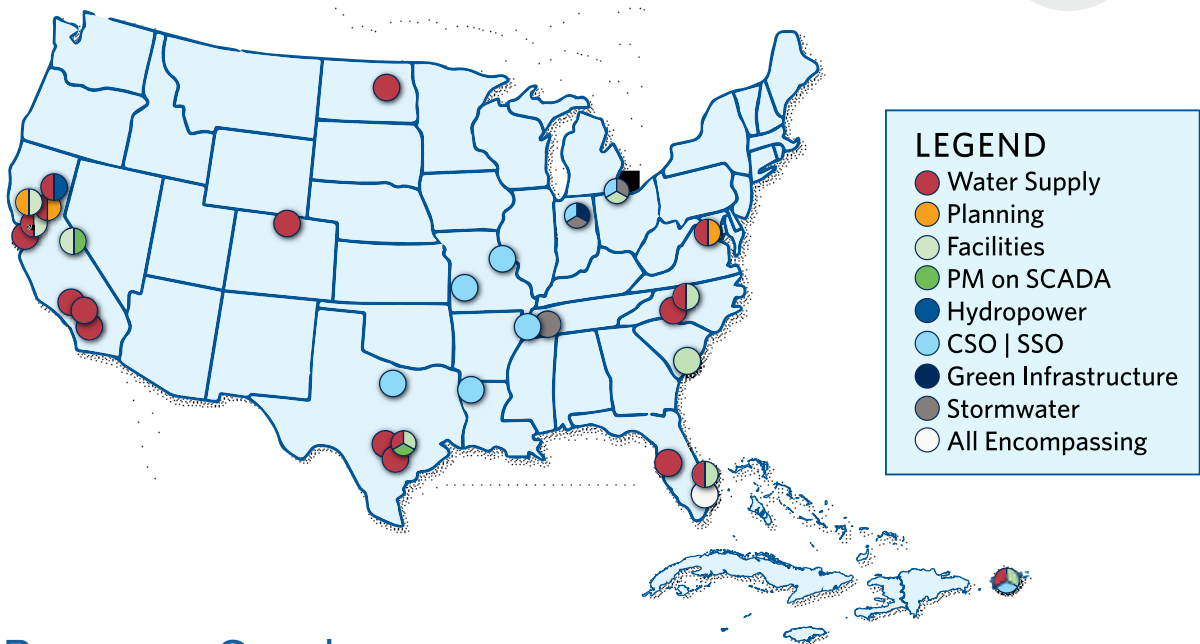
Our professionals understand that your needs are unique. We can provide a range of proven options to allow you to customize the approach that will best meet your goals, schedule, budget and other requirements. Then, our seasoned team will manage the tasks, risks and details to deliver results as part of an integrated team with you staff.

## A Trusted Partner

Our professionals are with you every step of the way as trusted partners. Our team genuinely cares about you and your needs as well as the needs of the community. Our focus on caring and understanding, combined with our services and capabilities, enable a streamlined and cost-effective path to your success.

# Program Solutions

The map below highlights the type of programs Black & Veatch has overseen in the United States.



## Program Services

Black & Veatch services cover the full life cycle of a program. The following provides an overview of services we provide for the duration of a program.

|                                                                                                                                                                                                                                                                                                                                                                             |                                                                                                                                                                                                                                                                                                                                                                                    |                                                                                                                                                                                                                                                                           |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <div>1. CORE FOCUS</div> <div><ul style="list-style-type: none"><li>Integration management</li><li>Internal and external stakeholder engagement</li><li>Safety, risk and quality management</li><li>Alignment with Sustainable Development Goals (SDGs)</li></ul></div>                                                                                                     | <div>2. INITIATE</div> <div><ul style="list-style-type: none"><li>Capital improvement plan optimization</li><li>Benchmarking and key performance indicator development</li><li>Delivery method and packaging assessments</li><li>Governance and decision-making support</li><li>Chartering and brand development support</li></ul></div>                                           | <div>3. PLAN</div> <div><ul style="list-style-type: none"><li>Feasibility analyses</li><li>Economic and benefit cost analysis</li><li>Funding studies and grant writing</li><li>Concept level engineering</li><li>Environmental and regulatory compliance</li></ul></div> |
| <div>4. EXECUTE</div> <div><ul style="list-style-type: none"><li>Scope management</li><li>Engineering design and management</li><li>Risk- and schedule-based estimating</li><li>Permit support and mitigation management</li><li>Real estate support</li><li>Procurement management and shop inspections</li><li>Construction management and administration</li></ul></div> | <div>5. CONTROL</div> <div><ul style="list-style-type: none"><li>Real-time reporting</li><li>Change management</li><li>Resource-driven schedules</li><li>Budget and cost management</li><li>Trend, variance and earned value analyses</li><li>Third-party audits</li><li>Document and information management</li><li>Administrative record preparation and support</li></ul></div> | <div>6. CLOSEOUT</div> <div><ul style="list-style-type: none"><li>Commissioning and startup management and support</li><li>Operator training</li><li>Warranty management</li><li>Asset management</li><li>As-builts and contract closeout</li></ul></div>                 |

# Program Experience Highlights

## Memphis Sanitary Sewer Overflow Reduction Program

MEMPHIS, TN

The city of Memphis undertook the colossal Sewer Assessment and Rehabilitation Program—known as SARP10—and selected Black & Veatch to provide comprehensive program management services. SARP10 is slated to last more than a decade and includes numerous infrastructure improvement projects across the entire sanitary sewer system.

### Key Accomplishments to Date

- Completed 900,000 work hours with no lost time incidents.
- Reduced the number of SSOs by 65 percent at the one-third mark of the construction portion of the program.
- Self-performance of engineering and construction eliminating schedule extension in city procurement and establishing a single point of responsibility on program outcomes.
- Workforce development that included mentoring and training for professional services and craft. More than 30 new careers created by the program.



**CAPITAL SPEND:** \$350 million  
**PERFORMANCE PERIOD:**  
2013–2025 (est.)

#### SERVICES:

- Program management
- Construction management
- Public relations
- Stakeholder management
- Workforce development

## Gross Reservoir Expansion

BOULDER COUNTY, CO

Denver Water is focused on improving water supply dependability and reliability for the 1.4 million people the organization serves in the Denver metro area. As part of this effort, Denver Water selected Black & Veatch to provide owner’s representative and construction management services on the Gross Reservoir Expansion, the keystone for improving the northern supply system. The program will raise the height of the existing 340-foot curved, gravity dam by 131 feet, increasing reservoir capacity from 42,000 acre-feet of water to 119,000 acre-feet. The completed arched dam will be the largest raise of a concrete dam using roller-compacted concrete in the world and the only such project in the United States.

### Key Accomplishments to Date

- Prepared an innovative, cost-effective final design for raising Gross Dam that modifies the concrete gravity dam into an arch dam to create a structure that will last 2,000 years with the proper care and maintenance.
- Program delivered using a construction manager and a general contractor. The developed approach is aligned with receiving the contractor’s innovation during design and developing the construction-agreed price—the best cost-estimate for the work with transparent accounting for project cost-risk.



**CAPITAL SPEND:** \$450 million  
**PERFORMANCE PERIOD:**  
2017–2027

#### SERVICES:

- Program management
- Public relations/community engagement
- Planning and risk management
- Procurement
- Infrastructure planning



**CAPITAL SPEND:** \$1.04 billion

**PERFORMANCE PERIOD**

2008–2032

**SERVICES**

- Program management
- Construction management
- Permitting and licensing
- Geographic information systems
- Geotechnical consulting

## Red River Valley Water Supply Program

CARRINGTON, ND

Black & Veatch is providing program management and design services for this 160-mile, 72-inch-diameter pipeline to provide reliable sources of water in the Red Valley of North Dakota. This work is being performed under the direction of the Bureau of Reclamation and the Garrison Diversion Conservancy District.

### Key Accomplishments to Date

- Led the design effort of the entire water transmission pipeline.
- Set site-specific standards for the restoration of high-yield agricultural lands following pipeline construction that will result in no crop loss.
- Established communication lines and feedback loops to inform communities in four counties and coordinate federal, state and county agencies.
- Developed and maintained schedules, coordinated QA/QC reviews and prepared all permit applications.
- Worked with budget and financing from stakeholders to help fund the program.



**CAPITAL SPEND** \$521 million

**PERFORMANCE PERIOD**

2002–2020

**SERVICES**

- Contract administration
- Project controls and master critical path method schedule
- Resident engineering and inspection
- Coordination and procurement of funding
- Public outreach and stakeholder interface

## Waterways Initiative – Consent Order Program Management

TOLEDO, OH

The Toledo Waterways Initiative was driven by a 2002 consent decree that the city of Toledo signed with the U.S. EPA. Due to the sensitive nature of this program, the city selected Black & Veatch to manage all aspects of its wastewater program to comply with the federal consent decree for controlling combined sewer overflow (CSO) discharges and Ohio EPA findings and orders to eliminate sanitary sewer overflows (SSO).

### Key Accomplishments

- Completed on schedule. Met every consent decree milestone and tracked more than nine percent below budget during the program.
- Prepared consent decree-required plans, studies and reports, and developed an accepted CSO long-term control plan.
- Provided sewer improvements and planning studies, design and construction management services to end bypassing at Bay View WWTP and eliminate all known SSOs.
- Established a project website for team information dissemination and coordination and to make program and design standards available for all firms involved in the program.

# Anderson Dam Seismic Retrofit Program

SANTA CLARA, CA

This 1950s dam was built on Coyote Creek to impound up to 98,000 acre-feet of runoff from 195 square miles of the 320-square-mile watershed. It creates the Valley Water's largest surface storage reservoir, which supplies water to a large portion of Silicon Valley. To comply with current requirements, the embankment dam is being rebuilt to accommodate four feet of potential fault rupture below the dam's foundation; the spillway is being upgraded to pass the updated probable maximum flood; and the outlet works are being replaced to meet the state's drawdown criteria.

## Key Accomplishments to Date

- The initial risk assessment identified the original dam retrofit approach was overly optimistic.
- A probabilistic evaluation identified the amount of earthwork needed to rebuild the dam would require two more years to complete.
- Worked with Valley Water to develop the current phased implementation, which consists of a new tunnel and completing downstream channel improvements before starting to rebuild the dam.



**CAPITAL SPEND** \$650 million  
**PERFORMANCE PERIOD**

2011–2031

### SERVICES

- Program management support
- Owner's engineer
- Federal and state dam safety compliance
- Risk and quality management
- Construction management support

# Metropolitan St. Louis Sewer District (MSD) Tunnel Program

ST LOUIS, MO

The MSD embarked on a \$4.7 billion wet-weather program to address CSO and SSOs under a consent decree. Black & Veatch is providing third-party construction management services for a series of CSO/SSO storage and wastewater conveyance tunnel projects, which will be constructed over the course of the 20-year program.

## Key Accomplishments to Date

- Executing work on seven projects involving 17 miles of deep rock tunnels ranging from 8 to 28 feet in diameter.
- Scope includes pre-construction services to review design documents for constructability and bid-ability as well as pre-qualifying tunneling contractors.
- Implementation of a program-wide construction management/document management software system.
- Services during construction include resident engineering/inspection and overall construction management, including cost and schedule control analysis and document control.



**CAPITAL SPEND** \$4.7 billion  
**PERFORMANCE PERIOD**

2014–2034

### SERVICES

- Program management
- Construction management
- Consent decree-based cost control
- Schedule control



County of Hawai'i  
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# Statement of Qualification **Resilient Stormwater Solutions**

Additional Company Information



**BLACK & VEATCH**

# Tailored, Multi-Benefit Stormwater Solutions that Enable Community Resilience

**Black & Veatch's** comprehensive stormwater solutions team is nationally and internationally recognized for its ability to deliver cost-effective, integrated solutions for projects and programs large and small. Our continent-wide team successfully blends engineering and science in water resources management – as well as decades of experience solving communities' most complex stormwater challenges – to provide a full spectrum of expertise across the entire project lifecycle. We leverage our experience and lessons learned to tailor solutions

that simultaneously provide multiple complimentary benefits including flood protection, water quality improvement, water reuse, ecological benefits and recreational/educational opportunities while optimizing life-cycle costs and providing operational flexibility. Our vision is to provide comprehensive water resource capabilities and a collaborative approach for the planning, design and construction management of solutions that support our clients' missions and objectives.

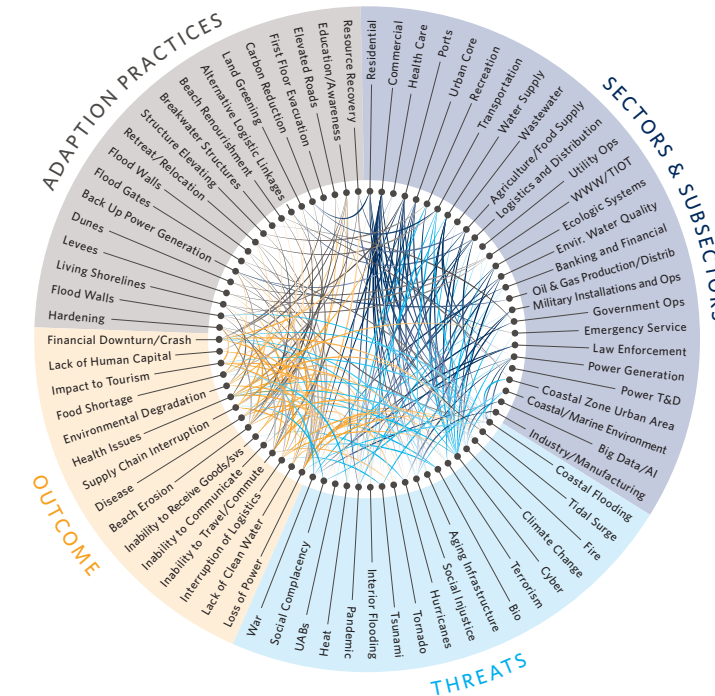


## North American Stormwater Solution Experience

## Our Areas of Focus

### Resiliency

Black & Veatch has been a proponent and strong advocate for resilient and sustainable infrastructure for decades – long before “resiliency” became a catchword. We have completed vulnerability and risk adaptation studies on hundreds of facilities across the U.S., have recently developed a common framework to guide the planning and implementation of resilient water infrastructure via the Water Research Foundation (WRF), have completed AWIA risk assessments for dozens of clients, and continue to support this critically important area of focus across the full spectrum of our core services. The figure below emphasizes the complex interdependencies between sectors, threats, outcomes and available adaptation solutions.



### One Water

Creating sustainable One Water solutions is a long-term mission and passion of the Black & Veatch Water team. One Water is a collaborative, innovative, and integrated approach to optimize the sustainability of our essential water resources. Its outcome enhances our quality of life by promoting vibrant and engaged community participation while encouraging responsible stewardship of our social, economic and environmental resources.

### Implementation/Delivery

CBP, CM, CA, PDB, CMAR, PPP

### Funding/Finance

SWU, HGMP, Grants, Cost Share, Etc.

### Planning/Design

H&H, GIS, Design, Permitting, CDs

## Implementation Spectrum

The Black & Veatch Water team is uniquely qualified in all three of the principal pillars that encompass the comprehensive scope of stormwater management:

- **Funding & Finance** – Black & Veatch has the expertise and experience to identify and pursue various funding alternatives including the turnkey development of stormwater or resiliency utility programs. As the principal author of the biannual National Stormwater Utility Survey, we keep close tabs on how the market creatively funds their everchanging Stormwater needs.
- **Planning & Design** – Black & Veatch is well recognized for our ability to innovate and develop design concepts that incorporate state-of-the-art practices including smart infrastructure and dynamic/risk integrated asset management planning and capital improvement plan development. As a designer, builder and asset manager, we naturally understand the critical need to develop plans that are constructible, functional and easy to operate and maintain.
- **Infrastructure Delivery** – Black & Veatch has the unique ability and requisite relationships to bring low-risk, collaborative project/program delivery alternatives to bear to efficiently deliver distributed infrastructure over a regional-scale geography.

Each of these pillars is critical as it relates to initiating and driving progress around any stormwater management program. Whether the need is regulatory driven or community inspired, we can help.

# Our Services

Our services have included funding and financing, peer review, studies and planning, preliminary and final design, construction phase services, and/or collaborative delivery on a wide variety of stormwater projects undertaken across the U.S. and abroad. In addition, our offerings have spanned from localized projects to state- and regional-scale programs.



## State/Regional Scale

- **Planning, technical support, facilitation**
- **Rule development/policy support**
- **Program delivery**

## Watershed Scale

- **Comprehensive management planning**
- **Watershed modeling**
- **FEMA Hazard Mitigation Grant Program**
- **TMDL/BMAP support**
- **MFL assessment and recovery strategies**
- **River/stream mechanics/geomorphology**
- **Water quality and sediment transport modeling**
- **Hydrogeological assessments**

## Community Scale

- **Stormwater master planning**
- **Asset management and risk-integrated CIP development**
- **Funding and financing**
- **Community-based partnerships**
- **One Water planning**
- **Resiliency master planning**
- **Smart infrastructure**

## Project Scale

- **Green and blue/green Infrastructure**
- **Retrofit design**
- **Alternative delivery**
- **Construction services**
- **Monitoring and instrumentation**
- **Computational fluid dynamic modeling**

# Industry Leadership

## About Black & Veatch's Stormwater Team

- Leveraging broad expertise in watershed-scale planning and strategic resource management in leading development of the first comprehensive One Water master plan in the Southeastern U.S.
- Was owner's engineer for the New Orleans Hurricane Protection project that involves the nation's largest stormwater pump stations.
- Completed the Sea Level Rise and Resilience Strategy for Charleston, SC, one of the oldest cities in the U.S.
- Participating in the first community-based partnership project in the U.S., aimed at turnkey implementation of dispersed stormwater best management practices on a regional scale.
- Has delivered significant national and global award-winning projects including Echo Park Lake, an international ASCE finalist for Outstanding Civil Engineering Achievement, and Lake Lenexa, an American Crown Community Award winner.

## In Addition, Black & Veatch Key Staff:

- Managed the first sub-tropical whole lake restoration project in the U.S.
- Participated in the development and verification testing of the first fully integrated ground and surface water model, linking Hydrological Simulation Program - Fortran with Modflow.
- Led engineering design of the first major wetland treatment system in Florida designed to treat wastewater effluent. The 1200-acre system was designed to provide advanced nitrogen removal and now provides a unique opportunity for public use, research and education.
- Led the planning and implementation of one of Florida's first potable reuse pilot projects, pureALTA, which uses a state-of-the-art treatment train designed to purify water beyond current drinking water standards.

# Complimentary Expertise Integration



## Dams

As a global leader in inspection/assessment, design and construction of major earthen and concrete dams and reservoirs for the purpose of water supply and environmental restoration, Black & Veatch has been involved in seven of the 10 largest dams in the U.S.



## Tunnels

**Black & Veatch** is a proven global leader in the design and construction of major tunnels for the purpose of conveying and storing water. We've been engaged on some of the largest tunneling programs in North America, from Charleston, SC to Las Vegas, NV and from Toronto, Ontario to Dallas, TX; delivering more than 300 miles of tunnels up to 38 feet in diameter.



## Pump Stations

Expertise in pump station systems of all types in all conditions, delivered more than 4,000 water facility pump stations with capacities up to 13,000 cubic feet per second.



## Pipelines

Through various implementation technologies, we've delivered nearly 10,000 miles of pipelines in the U.S. up to 108-inch diameter and 450 psi.

## Asset Management

A recognized demonstrated leader in asset management planning, we create and regularly apply a unique risk-integrated asset management strategy that facilitates dynamic, real-time plan updates as various capacity, management, operations and maintenance programs and capital improvement plans are implemented.

## Big Data

Through our collective expertise in power, water, telecommunications and smart, integrated infrastructure, Black & Veatch helps clients leverage big data coupled with smart technologies to manage and enhance performance of urban assets and services.



## Water Reuse

Black & Veatch has been involved in more than 2,200 MGD of installed reuse facilities for direct and indirect potable reuse, non-potable reuse, industrial, agricultural, groundwater recharge and sea water intrusion.

## Finance & Rate Development

A demonstrated leader in financial and rate development services, for two decades Black & Veatch has published its Stormwater Utility Report and for more than a decade has published a report assessing water and wastewater rates among the 50 largest cities in the U.S.

# Project Highlights

## U.S. Army Corps of Engineers, New Orleans District

### Outfalls Canals, Permanent Flood Gates, Pump Stations and Outfall Canal Feasibility Study



Three main canals drain stormwater from New Orleans. The emergency response following Hurricane Katrina installed interim control structures to protect the drainage system from future storm surge and flooding. Serving the U.S. Army Corps of Engineers (USACE) New Orleans District and State of Louisiana, Black & Veatch evaluated the system and provided solutions to strengthen the resilience of the pumping stations, surge gates, floodwall, levees and other components. Black & Veatch performed a complete condition assessment of the interim control structures, including site assessments. Based on the results, three new pump stations and surge gates were selected to replace the interim control structures. Pump station capacities are 12,500 CFS (8,080 MGD), 3,390 CFS (2,190 MGD) and 8,980 CFS (5,805 MGD), respectively. Black & Veatch provided the conceptual design of new pump station and gate structures to increase surge protection and reduce the potential of hurricane-driven flooding in the Orleans and Jefferson parishes.

**“We found Black & Veatch to be committed to our success, and they remain a valuable resource for Johnson County. They have consistently exceeded our expectations, and I sincerely look forward to working with them in the future.”**

- Lee Kellenberger,  
Johnson County Stormwater Program Manager

## South Florida Water Management District, Everglades, Florida

### Everglades Agricultural Reservoir and Pump Station, Phase 1



**Black & Veatch** provided design for an above-ground water-storage reservoir with a capacity of 190,000 acre-feet and maximum depth of 12 feet. The project included the design of a new pump station with a capacity of up to 3,000 CFS (1,940 MGD) and of modifications to existing pump stations and canals. Completed as the first phase of the Everglades Agricultural Area (EAA) reservoir project, the work supported flood control and water quality protection in the Everglades and coastal estuaries while also creating a supply to meet agricultural demands and lessen the area’s dependence on water from Lake Okeechobee.



# Matrix of Stormwater Experience

| Matrix of Stormwater Experience |                                                                                                    | Project Elements              |          |                             |               |                             |                                    |                  |                               |                      |                                |                      |                            |                           |                              |                    |                                    |                   |                       |                                 |                |  |
|---------------------------------|----------------------------------------------------------------------------------------------------|-------------------------------|----------|-----------------------------|---------------|-----------------------------|------------------------------------|------------------|-------------------------------|----------------------|--------------------------------|----------------------|----------------------------|---------------------------|------------------------------|--------------------|------------------------------------|-------------------|-----------------------|---------------------------------|----------------|--|
|                                 |                                                                                                    | Watershed Management Planning | Retrofit | Flood Management/Protection | Water Quality | Water Supply Sustainability | Ecorestoration, Eco/Bio Assessment | Asset Management | SW Utility, Funding & Finance | H&H and CFD Modeling | Inventory/Condition Assessment | Resiliency/One Water | Alternatives Analysis, LOS | Permitting and Compliance | Preliminary and Final Design | CDs/Specifications | Cost Estimating, Value Engineering | Public Engagement | Construction Services | Programmatic Support & Delivery | Monitoring/O&M |  |
| Client Type                     | Client/Project Name                                                                                |                               |          |                             |               |                             |                                    |                  |                               |                      |                                |                      |                            |                           |                              |                    |                                    |                   |                       |                                 |                |  |
| Federal                         | Jacksonville District; Everglades Pump Station 357                                                 |                               |          | ■                           |               |                             |                                    |                  |                               | ■                    |                                |                      | ■                          | ■                         | ■                            | ■                  | ■                                  |                   |                       |                                 |                |  |
|                                 | New Orleans District; Jefferson Parrish Floodwall                                                  |                               |          | ■                           |               |                             |                                    |                  |                               |                      |                                |                      | ■                          | ■                         | ■                            | ■                  | ■                                  |                   | ■                     |                                 |                |  |
|                                 | Chicago District; McCook Reservoir                                                                 | ■                             |          | ■                           |               |                             |                                    |                  |                               | ■                    | ■                              |                      | ■                          | ■                         | ■                            | ■                  | ■                                  |                   | ■                     |                                 |                |  |
|                                 | Chicago District; Deer Creek Flood Control Project                                                 | ■                             |          | ■                           |               |                             |                                    |                  |                               | ■                    |                                |                      | ■                          | ■                         | ■                            | ■                  | ■                                  |                   | ■                     |                                 |                |  |
|                                 | New Orleans District; Outfall Canal, Flood Gates, Pump Stations Design & Const Support             | ■                             | ■        | ■                           |               |                             |                                    |                  |                               | ■                    | ■                              |                      | ■                          | ■                         | ■                            | ■                  |                                    | ■                 | ■                     |                                 |                |  |
|                                 | Kansas City District; Swope Park Industrial Area Flood Protection Project                          | ■                             | ■        | ■                           | ■             |                             |                                    |                  | ■                             | ■                    | ■                              |                      | ■                          | ■                         | ■                            | ■                  |                                    | ■                 | ■                     |                                 |                |  |
| State & Regional Scale          | FL Fish and Wildlife Commission General Engineering Services                                       |                               |          | ■                           | ■             |                             | ■                                  |                  |                               | ■                    |                                |                      | ■                          | ■                         | ■                            | ■                  |                                    |                   | ■                     |                                 |                |  |
|                                 | FL Department of Environmental Protection TMDL/BMAP Support                                        | ■                             |          |                             | ■             |                             |                                    |                  |                               |                      |                                | ■                    | ■                          |                           |                              |                    |                                    | ■                 |                       |                                 |                |  |
|                                 | WRF Post-Project Performance Monitoring Stormwater Best Management Practices                       |                               |          |                             |               |                             |                                    |                  |                               |                      |                                |                      |                            |                           |                              |                    |                                    |                   |                       | ■                               |                |  |
|                                 | Georgia EPD Statewide Water Planning                                                               | ■                             |          | ■                           | ■             |                             |                                    |                  |                               |                      |                                |                      | ■                          |                           |                              |                    |                                    | ■                 |                       |                                 |                |  |
|                                 | Florida Water Management Districts GEC                                                             | ■                             | ■        |                             |               | ■                           | ■                                  | ■                |                               | ■                    | ■                              | ■                    | ■                          | ■                         | ■                            | ■                  | ■                                  | ■                 | ■                     |                                 | ■              |  |
| Watershed Scale                 | SWFMD Everglades Restoration Support - Numerous projects                                           | ■                             |          | ■                           | ■             |                             | ■                                  |                  |                               | ■                    | ■                              | ■                    | ■                          | ■                         | ■                            | ■                  | ■                                  | ■                 | ■                     |                                 |                |  |
|                                 | SWFMD Asset Management Support                                                                     |                               |          |                             |               |                             |                                    | ■                |                               |                      | ■                              |                      |                            |                           |                              |                    |                                    |                   |                       |                                 |                |  |
|                                 | Line Creek and Turkey Creek Master Plan                                                            | ■                             |          | ■                           | ■             |                             |                                    |                  | ■                             |                      |                                |                      |                            |                           |                              |                    |                                    |                   |                       |                                 |                |  |
|                                 | Real Time Flood Inundation Mapping and Economic Damages Modeling                                   | ■                             |          | ■                           |               |                             |                                    | ■                |                               |                      | ■                              |                      |                            |                           |                              |                    |                                    |                   |                       |                                 |                |  |
|                                 | Bear Creek Watershed and Reservoir Water Quality Modeling and TMDL Support                         | ■                             |          |                             | ■             |                             |                                    |                  |                               | ■                    |                                |                      | ■                          |                           |                              |                    |                                    | ■                 |                       |                                 |                |  |
|                                 | SWFMD Cutler Bay S-701 CFD Modeling                                                                |                               |          |                             |               |                             |                                    |                  |                               | ■                    |                                |                      |                            |                           |                              |                    |                                    |                   |                       |                                 |                |  |
|                                 | Blue River Watershed Integrated Plan                                                               | ■                             |          | ■                           | ■             |                             |                                    |                  |                               | ■                    | ■                              |                      | ■                          |                           |                              |                    |                                    | ■                 |                       |                                 |                |  |
| Community Scale                 | Winter Haven One Water Master Plan                                                                 |                               |          |                             |               |                             |                                    |                  | ■                             | ■                    |                                |                      | ■                          | ■                         | ■                            | ■                  | ■                                  | ■                 | ■                     | ■                               |                |  |
|                                 | Prince Georges County Clean Water Partnership                                                      | ■                             |          | ■                           | ■             | ■                           | ■                                  |                  | ■                             | ■                    |                                |                      | ■                          | ■                         | ■                            | ■                  | ■                                  | ■                 | ■                     | ■                               | ■              |  |
|                                 | Memphis Environmental Impact Bond Green Infrastructure                                             | ■                             |          |                             | ■             |                             | ■                                  |                  |                               |                      |                                | ■                    |                            |                           |                              |                    |                                    |                   |                       | ■                               | ■              |  |
|                                 | Milwaukee Metropolitan Sewerage District (MMSD)                                                    | ■                             | ■        | ■                           | ■             |                             |                                    | ■                | ■                             |                      |                                |                      |                            |                           |                              |                    |                                    |                   |                       |                                 |                |  |
|                                 | Fresh Coast Protection Partnership Community Based Partnership                                     |                               |          |                             |               |                             |                                    |                  |                               | ■                    |                                | ■                    |                            | ■                         | ■                            | ■                  | ■                                  |                   |                       | ■                               | ■              |  |
|                                 | Unified Government of Kansas City SWMP and SW Utility Development                                  | ■                             |          | ■                           | ■             | ■                           | ■                                  | ■                | ■                             | ■                    | ■                              | ■                    | ■                          |                           |                              |                    |                                    | ■                 |                       |                                 |                |  |
|                                 | City of Tulsa Stormwater Asset Management Program                                                  | ■                             |          | ■                           | ■             |                             |                                    | ■                | ■                             |                      |                                |                      |                            |                           |                              |                    |                                    |                   |                       |                                 |                |  |
|                                 | City of Columbia Comprehensive Stormwater Rate Study                                               | ■                             |          |                             |               |                             |                                    |                  | ■                             |                      |                                |                      |                            |                           |                              |                    |                                    |                   |                       |                                 |                |  |
| Major Project Scale             | Fargo Moorhead Metro Diversion Flood Protection                                                    | ■                             |          | ■                           |               |                             |                                    |                  |                               |                      |                                |                      | ■                          | ■                         | ■                            | ■                  | ■                                  | ■                 |                       |                                 |                |  |
|                                 | SWFMD EAA Reservoir and Pump Station                                                               |                               |          | ■                           |               | ■                           | ■                                  |                  |                               | ■                    |                                |                      | ■                          | ■                         | ■                            | ■                  | ■                                  |                   |                       |                                 |                |  |
|                                 | Lake Houston Dam Rehab                                                                             | ■                             |          | ■                           |               |                             |                                    |                  | ■                             | ■                    |                                |                      |                            | ■                         | ■                            | ■                  | ■                                  | ■                 | ■                     |                                 |                |  |
|                                 | Charleston Stormwater Tunneling (Conveyance)                                                       |                               |          | ■                           |               |                             |                                    |                  | ■                             | ■                    |                                | ■                    | ■                          | ■                         | ■                            | ■                  | ■                                  | ■                 | ■                     |                                 |                |  |
|                                 | Elmhurst Quarry Flood Control Project                                                              | ■                             |          | ■                           |               |                             |                                    |                  |                               |                      |                                |                      | ■                          | ■                         | ■                            | ■                  | ■                                  |                   | ■                     |                                 |                |  |
|                                 | SWFMD C-43 Reservoir EDC (Reservoir)                                                               |                               |          |                             |               |                             |                                    |                  |                               |                      |                                |                      | ■                          |                           | ■                            |                    | ■                                  |                   | ■                     |                                 |                |  |
|                                 | Miami Dade ASR/DWI Prog Management                                                                 |                               |          |                             |               | ■                           |                                    |                  |                               |                      |                                |                      |                            |                           |                              |                    |                                    |                   |                       | ■                               |                |  |
| Neighborhood Scale              | Harris County Texas SW conveyance & Flood Control Project                                          | ■                             | ■        | ■                           |               |                             | ■                                  | ■                | ■                             | ■                    | ■                              | ■                    | ■                          | ■                         | ■                            | ■                  | ■                                  | ■                 | ■                     | ■                               |                |  |
|                                 | City of Columbia SW and Stream Restoration GEC                                                     | ■                             | ■        | ■                           | ■             |                             | ■                                  |                  | ■                             | ■                    |                                | ■                    | ■                          | ■                         | ■                            | ■                  | ■                                  | ■                 | ■                     |                                 |                |  |
|                                 | Echo Lake Park, Los Angeles CA                                                                     | ■                             | ■        | ■                           | ■             |                             | ■                                  |                  | ■                             | ■                    |                                | ■                    | ■                          | ■                         | ■                            | ■                  | ■                                  | ■                 | ■                     |                                 |                |  |
|                                 | Dennis Street SW Pump Station; Key West                                                            |                               |          | ■                           |               |                             |                                    |                  |                               | ■                    |                                |                      | ■                          | ■                         | ■                            | ■                  | ■                                  |                   | ■                     |                                 |                |  |
|                                 | City of Ocala Stormwater Master Plan for Downtown Redevelopment                                    | ■                             |          | ■                           | ■             |                             | ■                                  |                  |                               |                      |                                |                      | ■                          |                           |                              |                    |                                    | ■                 |                       |                                 |                |  |
|                                 | SE Atlanta Green Infrastructure Initiative                                                         |                               | ■        |                             | ■             |                             | ■                                  |                  |                               |                      |                                | ■                    | ■                          | ■                         | ■                            | ■                  | ■                                  | ■                 |                       |                                 |                |  |
|                                 | SWFMD Wysong Dam Replacement                                                                       |                               | ■        | ■                           |               | ■                           | ■                                  |                  |                               |                      |                                |                      | ■                          | ■                         | ■                            | ■                  | ■                                  |                   | ■                     |                                 |                |  |
| Resiliency                      | Cape Coral Septic to Sewer Program                                                                 |                               |          | ■                           |               |                             |                                    |                  |                               |                      |                                |                      | ■                          | ■                         | ■                            | ■                  | ■                                  |                   |                       |                                 |                |  |
|                                 | Charleston SLR Study Phase 1 & 2                                                                   |                               |          | ■                           |               |                             |                                    |                  |                               |                      |                                | ■                    |                            |                           |                              |                    |                                    | ■                 |                       |                                 |                |  |
|                                 | Tampa Bay Water Long Term Water Supply Resiliency Study                                            |                               |          | ■                           |               | ■                           |                                    | ■                |                               |                      |                                | ■                    |                            |                           |                              |                    |                                    | ■                 |                       |                                 |                |  |
|                                 | WRF 5014: Practical Framework for Infrastructure Resilience                                        |                               |          |                             |               | ■                           |                                    |                  |                               |                      |                                | ■                    |                            |                           |                              |                    |                                    |                   |                       |                                 |                |  |
|                                 | AWIA Projects – numerous                                                                           |                               |          | ■                           |               | ■                           |                                    | ■                |                               |                      |                                | ■                    |                            |                           |                              |                    |                                    | ■                 |                       |                                 |                |  |
| GI Projects                     | Beverly Hills CA Green Streets for Stormwater Compliance                                           |                               |          | ■                           | ■             |                             |                                    |                  |                               |                      |                                | ■                    |                            |                           |                              |                    |                                    | ■                 |                       |                                 |                |  |
|                                 | Stormwater Program, Low Impact Development Manual, O&M Optimization - Tulsa, OK                    | ■                             |          |                             |               |                             |                                    |                  |                               |                      |                                |                      |                            |                           |                              |                    |                                    |                   |                       | ■                               |                |  |
|                                 | Beverly Hills CA Green Streets Capital Improvement Program and Regional Stormwater BMP             |                               | ■        | ■                           | ■             |                             | ■                                  |                  |                               | ■                    |                                | ■                    | ■                          | ■                         | ■                            | ■                  | ■                                  | ■                 | ■                     |                                 | ■              |  |
|                                 | Drainage and Water Quality Master Plan - Santa Monica, CA                                          | ■                             |          | ■                           | ■             |                             |                                    |                  |                               | ■                    | ■                              |                      |                            |                           |                              |                    |                                    | ■                 |                       |                                 |                |  |
|                                 | Rain Garden Program - Fort Wayne, IN                                                               |                               | ■        |                             | ■             | ■                           |                                    |                  |                               |                      |                                | ■                    |                            |                           |                              |                    |                                    |                   |                       | ■                               |                |  |
|                                 | BMP Manual Development; Kansas City, MO                                                            | ■                             |          |                             |               |                             |                                    | ■                |                               |                      |                                |                      |                            |                           |                              |                    |                                    | ■                 |                       | ■                               |                |  |
|                                 | Lake Lenexa and Blackhoof Park; Lenexa, KS                                                         | ■                             | ■        | ■                           | ■             |                             |                                    |                  |                               | ■                    |                                |                      | ■                          | ■                         | ■                            | ■                  | ■                                  | ■                 | ■                     |                                 |                |  |
|                                 | Integrated SW Planning for Healthy Streams, Economic Vitality, Sustainable Growth - St. Peters, MO | ■                             |          | ■                           | ■             | ■                           | ■                                  |                  |                               |                      |                                |                      |                            |                           |                              |                    |                                    |                   |                       |                                 |                |  |

# Representative Proofs

## Federal

### 8.5 Square Mile Area Flood Damage Reduction Project, Everglades Restoration, Miami-Dade County, FL



The intent of this project is to protect a residential area in Miami-Dade County from increased water elevations that will result from the Everglades National Park Water Deliveries and Restoration Project. The project also involves freshwater diversion into a stormwater treatment area. The main protection system will be a perimeter levee. Significant seepage is expected through the bedrock into the protected area. An interior canal will collect the seepage. The water will be pumped through a 500 cfs pump station into a stormwater treatment area and ultimately travel back into the Everglades. The Stormwater Treatment Area (STA) is approximately 400 acres in size, surrounded by a perimeter levee about 3.25 miles long. The perimeter levee is a minimum height of 7 feet high to allow for 4 feet of storage and 3 feet of freeboard with a crest elevation of about 12.5 feet, NGVD. The perimeter levee minimum crest width is 12 feet, and side slopes are no steeper than 3:1.

## State Scale

### Florida Fish and Wildlife Conservation Commission

Black & Veatch performed assessment, data collection, preliminary design, and final design services for hydrologic restoration elements and culvert system replacement.

## State Scale (continued)

### Florida Department of Environmental Protection's Total Maximum Daily Load Program

As a sub to Janicki Environmental, Black & Veatch is providing statewide technical support to the Florida Department of Environmental Protection's Total Maximum Daily Load (TMDL) program. Duties include data collection and analysis, document development, mechanistic modeling, engineering assessments and coordination with local governments and stakeholders for tasks associated with the technical aspects of developing, implementing and tracking:

- Total Maximum Daily Loads (TMDLs)
- Basin Management Action Plans (BMAPs)
- Reasonable Assurance and Pollutant Reduction Plans
- Class III-Limited Petitions
- Site Specific Alternative Criteria (SSACs) Petitions
- Human Health Criteria (HHC) public outreach

## Regional Scale

### Florida Water Management Districts

Black & Veatch has performed numerous assignments for Florida's water management districts, from planning to large infrastructure projects design and construction phase. Our relevant water management district experience includes projects such as:

- C-43 Reservoir – Engineer during construction for a 10,000-acre reservoir and ancillary infrastructure
- EAA Reservoir and Pump Station – Design of a major reservoir and pump station to support Everglades restoration
- Wysong Water Conservation Structure rehabilitation – alternatives analysis, data collection, and design of rehabilitation concepts for a water control structure
- Medard Reservoir Dam Rehabilitation – Assessment and design of a system to rehabilitate the toe drain system
- Risk-based Replacement Planning Model – Application of asset management to flood control structures to prioritize renewal and replacement of system components
- Emergency Action Plan updates for earthen levee systems

## Watershed Scale

### Harris County (Houston) Flood Control



The Harris County Flood Control District (Flood Control District) is implementing studies to identify and evaluate new technologies that can readily be integrated into its existing flood control system. Black & Veatch completed a planning level assessment of tunnel conveyance concepts and their ability to provide cost-effective flood reduction benefits. Study work elements include hydrologic and hydraulic modeling, development of tunnel and traditional flood control concepts, geotechnical and environmental evaluations, stakeholder and public involvement services, alternatives analysis, construction cost and schedule estimating, development of a Tunnel Implementation Plan (TIP) and a Basis of Design Report.

## Blue River Watershed Integrated Plan

### Johnson County KS, Kansas City MO and Mid-America Regional Council

The city of Kansas City, MO and Johnson County, KS, are exploring the feasibility of developing an integrated plan for the Blue River Watershed according to the six step process developed by EPA. The Black & Veatch team is assisting this effort by developing the first phase of the Blue River Watershed Integrated Plan (BRWIP) with an ultimate goal of providing the Blue River

Partners an approach that allows them to effectively prioritize and affordably implement wastewater and stormwater programs to comply with evolving Clean Water Act (CWA) regulations and improve water quality throughout the watershed.



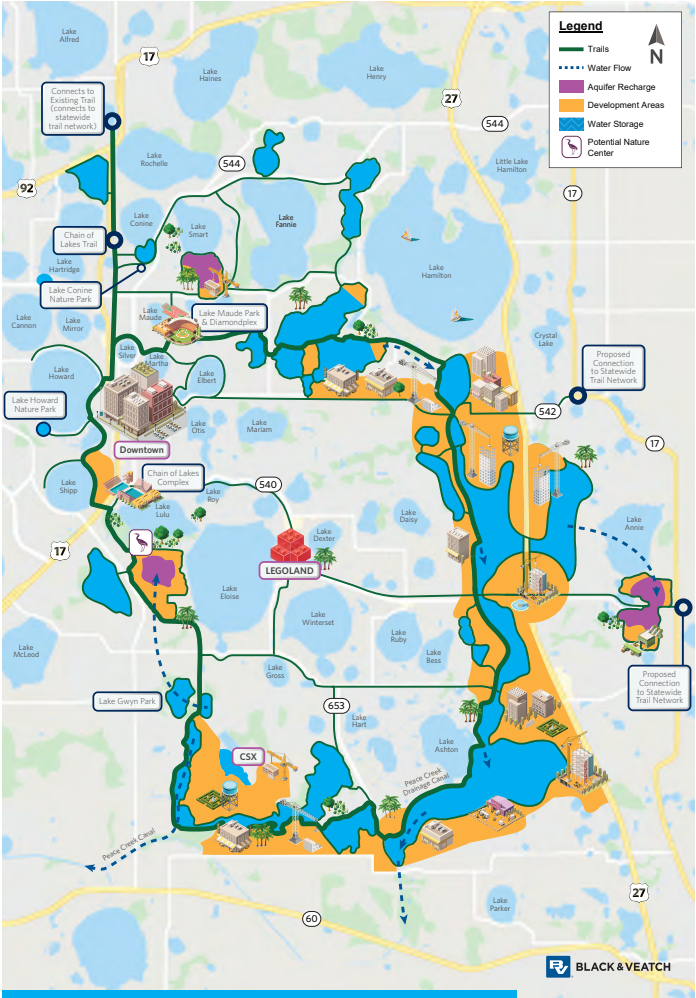
**“The UG has been greatly pleased with the partnership with Black & Veatch on the Stormwater Master Plan. Black & Veatch has gone above and beyond the requirements of providing watershed based solutions for our stormwater needs in Kansas City, KS. We had presented them with a unique request for a parallel project with the Impervious Rate Transition Plan, and they were able to implement their study to compliment the efforts of the rate study. We feel that Black & Veatch has provided us with a superb product and that they are invested in the future of KCK.”**

- Sarah White,  
Stormwater Engineer, Unified Government

# Representative Proofs

## Community Scale

### Winter Haven One Water



The Winter Haven One Water Master Plan is a comprehensive, watershed-based planning approach to address the challenges of rapid development in a region with impaired waters and hydrologically-impacted natural systems. This project involves planning all aspects of Winter Haven's water future in a 50-year timeframe including water, wastewater, and reclaimed water systems, stormwater assessment, watershed restoration, and management strategies for improving water quality of impaired waters.



## Community Scale (continued)

### Community-Based Partnerships



Community-Based Partnerships are a creative way to efficiently deliver distributed infrastructure at an accelerated pace by leveraging the efficiencies of the private sector while still creating local economic development and prosperity. This emerging stormwater BMP delivery model has been used successfully in Prince Georges County, MD, and Black & Veatch is a partner in delivering the program.

## Project Scale - Major

### Charleston Stormwater Tunneling



The Spring/Fishburne Drainage Improvements Project is the city of Charleston's largest capital project and will reduce flooding to an area of approximately 550 acres or 20% of the Charleston peninsula. The \$200M project is a five-phase program with several objectives: to improve mobility, efficiency, emergency preparedness and community livability, and, most importantly, to alleviate many of the flooding problems by reinvesting in the infrastructure. Infrastructure upgrades include 8,500 feet of 10-12-foot finished ID concrete lined tunnels, four large-diameter shafts, eight small-diameter drop shafts, a triple-barrel river outfall, and a 330,000 gpm stormwater pump station.

## Project Scale - Minor

### City of Columbia Stormwater and Stream Restoration GEC



Black & Veatch has provided comprehensive stormwater services to the city of Columbia for the last five years. One of our assignments, the Upper Wildcat Creek Tributary Project, included geopolymer rehabilitation and design of a new stormwater conveyance. Another assignment, the Queen Street Stormwater Improvements Project, provided a myriad of stormwater structures including detention basin retrofits to provide flood relief and improve water quality. Black & Veatch has been responsible for all aspects of the projects including concept development, design, permitting, plans and bid docs, and construction administrative services.

## Resiliency

### Charleston SLR Study

In December 2015, Black & Veatch partnered with the city of Charleston to write its first Sea Level Rise Strategy. This document was meant to inform and provide a guiding framework to protect lives and property, maintain a thriving economy and improve quality of life by making the city more resilient to sea level rise and recurrent flooding.

The team consulted with local representatives from the National Oceanic and Atmospheric Administration to compile data and projections related to annual average sea level rise in the Charleston Harbor as well as tidal flooding. This information was used as a reporting mechanism in the strategy and was also the basis for revised planning standards. For instance, new freeboard elevations were recommended based on the 50-year flooding projections.

To frame the next steps for resilience planning and building in the city of Charleston, the strategy recognizes five categories through which effective change is supported: infrastructure, governance, resources, land use and outreach. Black & Veatch met regularly with department representatives from the city to draft, make recommendations and refine actionable initiatives within each of the five categories. The development of these initiatives was supported by Black & Veatch's knowledge on local challenges, involvement in ongoing flood mitigation projects with the city of Charleston and expertise on green infrastructure solutions. These initiatives were then organized in a dashboard, prioritized and individually assigned to city departments for execution. The final document was published in February 2019 and serves as the city's framework for one of its most pressing issues.



**"Black & Veatch are adept at listening to the needs of the County, communicating well and providing high-quality deliverables. They have worked across departments and disciplines to provide the County holistic system recommendations. As a result, the County has gained increased confidence in implementing projects without the fear of negative unintended consequences from evaluating systems in silos."**

- Becky Cook,  
Senior Engineer, Pinellas County, FL

# Modeling Capabilities

## Modeling and Analysis

Team personnel have combined scientific research and applied engineering concepts to develop models that address the effects of both simple as well as complex environmental processes. Our experience is inclusive of fundamental tasks such as monitoring, data research and interpretation, field reconnaissance, surveying, and interviews with local citizens. We have studied and analyzed a wide variety of system types, from small stormwater management systems to large-scale regional watershed and lake diagnostic/restoration projects. We maintain a comprehensive library of hydrologic/hydraulic computer software that our experts use routinely to solve a variety of water related problems. Some of the models our team uses on a routine basis include:

### Surface Water - Event and Continuous Simulation

- HSPF
- ICPR4
- SWMM
- EFDC
- CE-QUAL-W2
- QUAL2K
- WASP
- BathTub
- XPSWMM
- HEC-HMS
- SWMM
- QUAL2KW
- QUAL2E
- LAKE2K
- LoadEst

### Water Quality Modeling

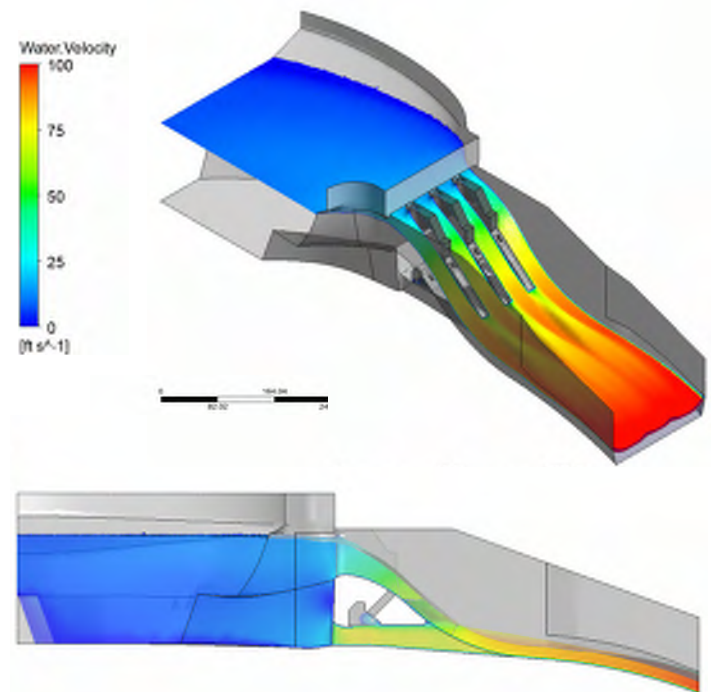
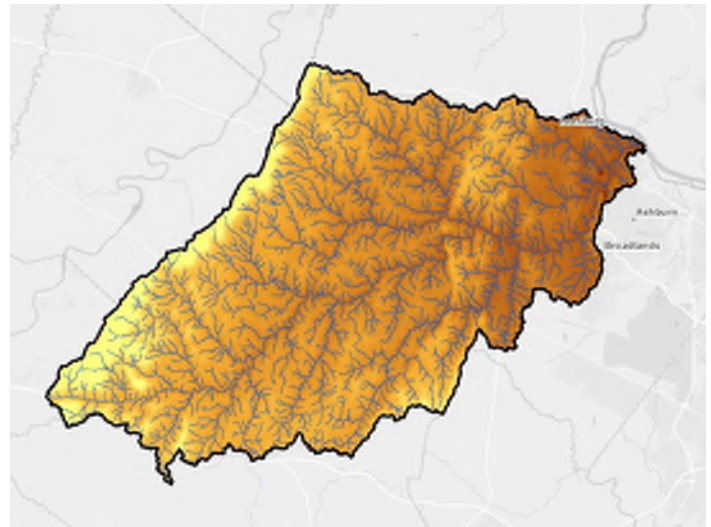
- HSPF
- WASP
- CEQUAL
- QUAL2EU
- PRZM
- EXAMS
- BASINS
- SWMM
- WAM

### Groundwater Only

- GMS MODFLOW
- AQTESOLV
- GFLOW
- Groundwater Vistas
- Visual MODFLOW

### Hydraulic/Water Surface Profile

- EXTRAN
- HEC-RAS
- FLOW2D
- STWAVE
- ACES
- TUFLOW
- EFDC
- CE-QUAL-W2
- ANSYS CFD
- VisualPlumes
- CORMIX



### Integrated Modeling

- MikeSHE and Proprietary spreadsheet models

### Watershed

- LSPC
- HSPF
- WAM
- GWLFe
- MapShed
- STEPL
- ICPRv4
- BASINS
- P8
- PCSWMM
- EPASWMM
- InfoSWMM
- Mike Urban
- Infoworks ICM



County of Hawai'i  
FY 2025 Professional Services

# Statement of Qualification **Stream & Ecosystem Restoration Solutions**

Additional Company Information



**BLACK & VEATCH**

# Meet Black & Veatch

**Black & Veatch is a 100% employee-owned global engineering, procurement, consulting and construction company with a more than 100-year track record of innovation in sustainable infrastructure.**

Since 1915, we have helped our clients improve the lives of people around the world by addressing the resilience and reliability of our most important infrastructure assets. We plan, design and build the energy, water and telecommunications systems that strengthen community resilience, reduce carbon footprints, drive sustainability and enable growth. Our global team is committed to serving as your trusted partner with innovative, end-to-end services and full project delivery solutions that are Building a World of Difference®. Regardless of the scope or size of the project, our execution is centered on safety and characterized by cost and schedule certainty.

## Our Commitment to Sustainability

Black & Veatch brings together regional and national experts recognized for promoting sustainability, livability, green infrastructure, environmental conservation and restoration. At the foundation of our approach is a commitment to understanding and analyzing holistic project benefits to ensure they deliver positive impact. This approach, aligned with the Institute for Sustainable Infrastructure's Envision® framework, works to minimize infrastructure impact on the natural world and the public while improving long-term community health and safety. Black & Veatch works with clients to affirm their commitments to promoting sustainability, and meeting project sustainability and Envision® goals.

Our sustainability strategy, [Accelerate Zero](#), outlines Black & Veatch's environmental, societal and governance policies, while elevating tangible progress to a cleaner, more equitable and prosperous world.



**BLACK & VEATCH**

## OVERVIEW

FOUNDED IN

**1915**



**120+**  
OFFICES

**10.6K+**

GLOBAL  
WORKFORCE 

**7,000+**

ACTIVE PROJECTS

**WORLD-WIDE**



2022



**4.25B**

REVENUE

**9<sup>TH</sup>**

**LARGEST**

EMPLOYEE-OWNED  
COMPANY  
IN THE U.S.

**EMPLOYEE  
OWNED**



# Stream & Ecosystem Restoration Solutions



**Black & Veatch works with clients across the United States to plan, design, and implement Stream & Ecosystem Restoration Solutions to advance resilience, provide long term sustainability, address stormwater management needs, and transform how natural resources are managed.**

Our team's approach addresses the infrastructure challenges and maximizes project benefits for the community and environment. We typically begin by identifying opportunities to reserve space for nature, including areas that can absorb floods, cleanse water, sustain fisheries, and provide recreation and economic stimulus.

The Black & Veatch team reimagines altered watersheds and we look for opportunities to transform ecosystems to improve community resilience. These restoration solutions don't take water from society; instead, they add value to water for social, economic, and environmental benefits.

**Blue River**  
*Renew the Blue*

Black & Veatch partnered with the Kansas City Zoo, Heartland Conservation Alliance, and Lakeside Nature Center to transform a long pedestrian bridge into an educational exhibit for the public.

The team designed and placed banners that elevate educational information that portrays the river, native mammals, amphibians, and birds and fish as local residents.

# How Our Solutions Are Unique to Region & Land Use

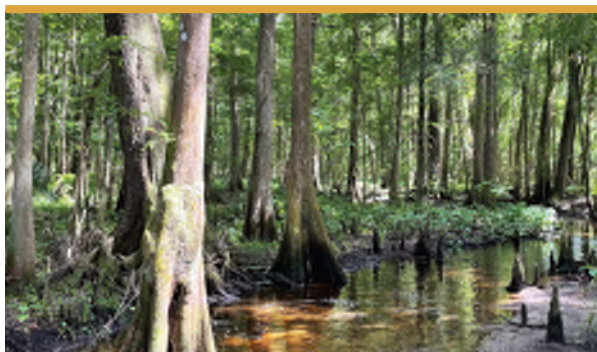
The Black & Veatch team brings experience working in various environments. We understand the challenges that are unique to geographic regions and various land uses.



## URBAN CORE

**Drivers:** Altered drainage networks and threats to infrastructure and human safety

**Solution:** Achieve community resilience by mitigating flooding, improving water quality and creating amenities such as fisheries and recreation opportunities.



## WILDLAND

**Drivers:** Dams, altered land uses, poor-quality landscapes

**Solution:** Restoration, preservation and protection of undeveloped lands and their recreational and ecosystem functions through scientific studies, monitoring and implementation.



## SURFACE MINES

**Drivers:** Regulatory requirements and commitments to surrounding communities

**Solution:** Master reclamation and restoration plans, rebuilding streams, aquifers, wetlands and ecosystems from the ground up, integrating landscape ecology and community planning.



## WATER INSECURE ENVIRONMENTS

**Drivers:** Water scarcity and lack of reliable supply

**Solution:** Designing and planning for equitable water resource allocation with a deep understanding of western water rights and recreational markets such as whitewater rafting, fishing, and tourism.

# Services that Integrate Seamlessly Into Your Project Life Cycle –Tailored to Your Unique Needs



## ASSESSMENT

**Focused on diagnosing the challenge**

- Assessing current state, trends, and potential of stream and wetland systems.
- Diagnosing key issues and threats to stream systems.
- Prescribing treatments needed to achieve project goals.

## PLANNING

**Cross discipline coordination to develop actionable guidance**

- Watershed, community, and project scale planning to advance ecosystem restoration.
- One Water master planning approach elevates ecosystem services and natural capital.

## DESIGN

**Integration of applied science, art, and engineering to deliver outcomes**

- Design informed by multi-disciplinary practice of fluvial geomorphologists, ecologists, and various engineering disciplines.
- Community benefits are achieved through collaboration with social scientists and intentional stakeholder engagement.

## MONITORING

**Measuring outcomes to advance best practices**

- Targeted and efficient monitoring studies, informed by assessments.
- Field professionals enable progress to be tracked.
- Best practices based on experiences from monitoring at state, regional, watershed and project scales.

## IMPLEMENTATION

**Providing diverse options for successful implementation**

- Experience with construction and maintenance informs smart planning, feasible design and effective asset management strategies.
- Advancing emerging project delivery mechanisms including design-build and public-private partnerships to deliver outcomes.

## FUNDING SUPPORT

**Elevating funding and finance opportunities through the project life cycle**

- Characterizing credits and value for mitigation.
- Strategic guidance to compare funding and finance opportunities and support for grant applications.

***"We found Black & Veatch to be committed to our success, and they remain a valuable resource for Johnson County. They have consistently exceeded our expectations, and I sincerely look forward to working with them in the future."***

**- Lee Kellenberger, Johnson County Stormwater Program**

# Project Experience



## McClay Valley Detention Basin & Stream Restoration Improvements

*St. Peters, MO*

The McClay Valley Detention Basin experienced significant siltation from upstream bank erosion and Black & Veatch designed flood control and water quality improvements to multiple detention basins throughout the City of St. Peters along with stream restoration of the primary creek upstream.



## Roy's Branch Stream Restoration

*St. Joseph, MO*

To address public health, provide green solutions, and increase operational efficiencies, Black & Veatch studied and designed this project to redirect Blacksnake Creek from St. Joseph's combined sewer system to a new and dedicated stormwater conveyance system that joins Roy's Branch before confluence with the Missouri River. Black & Veatch also collaborated with the city to coordinate and identify available funding sources applicable to the program.



## Soldier Creek Diversion Unit Repair - Phase 1

*Topeka, KS*

Soldier Creek extends across the north side of Topeka, Kansas through a partially developed floodplain of the Kansas River. After a flood in 2005, the levee and channel were severely damaged, particularly downstream near the Kansas River. To restore and repair the creek, Black & Veatch prepared the Phase I Field Investigation Report to document existing conditions and define recommendations to the creek. In Phase II, the team designed restoration improvements and supported construction.



## Cabin John Sewer System Compliance & Stream Restoration

*Montgomery County, MD*

The sanitary sewer collection and conveyance system in the Cabin John Creek Watershed, constructed primarily in the 1930s and 40s, started producing more runoff in shorter time periods due to urbanization, which caused stream channels to erode, exposing sanitary sewer systems at nearly two dozen locations. Black & Veatch provided design services to the watershed to ensure compliance with the Sanitary Sewage Overflow (SSO) Compliance Decree.



## Payne Creek Restoration

*Hardee County, FL*

In 1975, about two and a half miles of Payne Creek, a major tributary to the Peace River in Florida, was diverted through a bypass canal. Our team designed the restoration of this segment, forming a chain of wetlands and stream channels similar in scale to what existed prior to the diversion. Aspects of the project included conceptual design, hydraulic modeling, final plans, permitting support, and construction support.



## Natural Channel & Step-Pool Stream Design

*Hillsborough County, FL*

To address unnaturally steep slopes in eroding Florida gullies, the Black & Veatch team developed a design protocol for retrofitting step-pool stream morphology. We have applied this approach to stabilize over a dozen gullies at high-gradient legacy mine sites. The naturalized and stable conveyance arrests gully progression, increases upstream fish passage, improves water quality, and provides a forested valley in a high-stress setting.



## McCoy's Creek Restoration

*Jacksonville, FL*

The Black & Veatch team advanced this stream restoration in the heart of Jacksonville, generating inspiration and lessons about partnerships, funding access, and the integration of natural and engineered systems to reimagine drainage ditches in Florida's urban core areas. The integrated benefits demonstrated here include flood hazard mitigation, water quality, sediment management, fisheries development, biodiversity, recreation, infrastructure protection, and economic stimulus.



## Phillippi Creek Restoration

*Sarasota County, FL*

To help Sarasota County prioritize stream restoration improvements, our team is providing an interdisciplinary fluvial geomorphic study of 24- miles of canal. As part of a broad alignment study, Black & Veatch is spearheading the stream science elements. The county will use this study's results to advance the design and construction. Our team is under contract to offer design services, bid support and construction management for this phased stream restoration.



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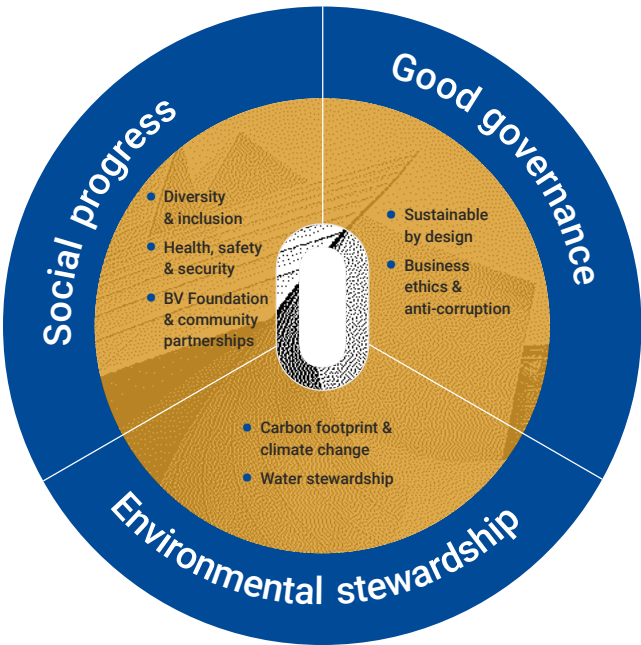
# Statement of Qualification **Sustainability Solutions**

Additional Company Information



**BLACK & VEATCH**

At Black & Veatch, sustainability is a critical part of our company's purpose, business strategy, culture and daily operations. We understand our Scope 1 & 2 emissions impact our client's Scope 3 goals. Managing our carbon footprint is a top priority, both as a component of our own strategy and to support our clients as part of their supply chain emissions goals. As we implement our sustainability strategy, success is measured by our ability to reach our GHG carbon emissions reduction goals and to provide decarbonization and climate adaptation solutions for our clients. These commitments reflect the priorities of employee-owners and clients, and help position our business for sustainable growth to achieve our vision to work relentlessly to solve humanity's critical infrastructure challenges.



**Our Corporate Sustainability Goals**

As a signatory to the United Nations Global Compact, the CEO Water Mandate and the United Nations Caring for Climate Pledge, Black & Veatch is aligned with global efforts to advance the United Nation's Sustainable Development Goals. We have identified the following goals as part of our corporate sustainability strategy.



- By 2023, reduce our Scope 1 and 2 emissions by 40 percent and overall GHG emissions (Scope 1, 2 and 3 business travel and teleworking) by 20 percent from a 2019 baseline.
- By 2025, deliver a low-carbon future by being net-zero for our direct operations.



- Collaborate with clients to deliver their decarbonization commitments by helping them set targets, create executable roadmaps to achieve their goals, evaluate alternate technology and investment choices, and design and build clean infrastructure.



- Assume a leadership position in deploying infrastructure that mitigates and adapts to climate change.

**Our sustainability service offerings include the design and construction of the following project solutions to help meet your sustainability objectives.**

**Clean & Resilient Power**

Utility Scale

- Renewable power development
- New energy (like hydrogen, nuclear, bio-gas)
- Transmission and distribution
- Carbon mitigation plans
- Power purchase agreements
- Carbon capture

Site Scale | Primary, Backup, and Bridging Power

- Natural gas generators
- Hydrogen generators
- Roof-top and ground-mount solar
- Sustainable fuels like bio-gas
- Fuel cells
- Nuclear (future SMR)
- Combined heat & power (CHP)
- Microgrid
- Battery energy storage systems (BESS)
- Electric grid reliability studies



**Water Conservation, Treatment, and Reuse**

Water Conservation

- Water use reduction alternatives
- Water Treatment and Reuse
- Cooling wastewater recycling
- Ultra-purification for manufacturing
- Zero liquid discharge and discharge compliance
- Optimization of wastewater treatment

**Circular Waste Streams**

By-Product Re-work / Re-purposing

- Solutions for food and bio-manufacturing clients to gain value from what is otherwise wasted
- Process operations evaluation to recycle waste stream
- Organic waste handling and management through digestion

Construction Waste

- Prefabrication for reuse and recycle
- Eliminate/reduce plastic wrapping

Waste-to-Energy

- Convert waste streams, including off-gas, biomass, food wastes, and municipal solid wastes to valuable products

**Biodiverse Ecosystems**

Environmental, Emissions, Biodiversity Compliance

- Environmental assessment
- Impact statements and mitigation plans
- Permitting, regulatory compliance and agency
- Land use planning and climate analytics
- Green infrastructure
- Stormwater management

Reimagined Nutrition to Feed a Growing Population

Controlled Environment Agriculture

Recirculating Aquaculture

Traditional Food & Beverage – Sustainable

Facility Design

Alternative Proteins

**Green Building Design**

Building Design and Supply Chain

- LEED certification
- Life-cycle analysis
- Embodied carbon calculations
- Computational Fluid Dynamics (CFD) modeling
- Enhanced building systems efficiency

Sustainability Road-mapping

- Decarbonization road-mapping
- NOX reductions and CO2 capture

Operations - Alternative Fleet Fuel Infrastructure

- EV fleet and equipment conversion
- Maintenance analysis

ISI Envision Sustainability Certified Professionals



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