Bob Ryan PhD, PE

17+ years of industry experience

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EDUCATION

PhD, Construction Management, Purdue University, West Lafayette, Indiana, 2020

Master of Engineering, Civil Engineering, University of Florida, Gainesville, Florida, 2018

Master of Science, Construction Management, Florida International University, Miami, Florida, 2012

Bachelor of Science, Construction Management, Western Illinois University, Macomb, IL, 2008

Bob is a licensed Civil Engineer with nearly 20 years of diverse experience spanning the roles of contractor, designer, and owner. His career has focused on delivering complex heavy-civil infrastructure projects, including deep foundations, bridges, structural steel, marine structures, paving, and cast-in-place concrete. Bob brings a unique 360-degree perspective to project delivery, having led initiatives from the field to the boardroom across private industry and federal agencies. Prior to teaching, Bob provided a leadership role in the $20B+ Shipyard Infrastructure Optimization Program (SIOP). His career has been marked by a builder's mindset, strong technical acumen, and a proven ability to guide diverse teams through complex projects—on time and within budget. Bob's professional journey includes experience in project controls, estimating, superintendence, project management, and field engineering. He has led major pursuits worth billions of dollars, executed complex heavy-lift operations, and contributed to nationally recognized projects. He has also helped build and scale businesses, formalized DBE program practices, and standardized cost estimating methodologies. An influential member of the Cost Engineering Community of Practice, Bob has chaired technical boards, authored guidance, and championed innovation in cost management at NAVFAC. He excels in briefing executive stakeholders, resolving conflicts, and aligning teams around shared goals. His leadership is defined by clarity under pressure, a commitment to mentoring, and a focus on continuous improvement. Bob's academic background complements his professional experience. He earned multiple degrees while working full-time, culminating in a doctoral dissertation analyzing cost variance across more than 12,000 projects—demonstrating his dedication to data-driven decision-making and operational excellence.

WORK EXPERIENCE

ILLINOIS INSTITUTE OF TECHNOLOGY 2025-PRESENT

Chicago, IL | Assistant Professor | Civil Engineering

Bob was appointed to a full-time faculty role with a focus on undergraduate and graduate instruction in areas including engineering graphics, surveying, construction engineering, and building systems. Responsibilities include coordinating and teaching the senior capstone design course, advising students, supporting curriculum development, mentoring student organizations, and contributing to lab modernization.

NAVAL FACILITIES ENGINEERING COMMAND (NAVFAC) 2023-2025

Chicago, IL | Cost Engineering Technical Disciple Coordinator | NAVFAC Northwest

Bob served as the Technical Cost Discipline Leader at NAVFAC Northwest. He served as the technical specialist, subject matter expert, and technical advisor for all engineering aspects of the Cost Program throughout the Command. In his role, Bob evaluated architecture and engineering construction projects to recommend, implement, and brief initiatives for improvements in cost and schedule, trained and mentored the cost engineering department, and is created and executed a workload initiative that tracks and staffing workloads to identify required staffing resources. Bobs applied the theories, concepts, principles, systems, and methodology of cost engineering to ensure compliance with DoD and Navy specifications (UFC & FC), where he applies is wealth of engineering and practical knowledge to understand, brief, and resolve problems.

Chicago, IL | SIOP Cost Engineer | NAVFAC Atlantic (LANT)

Bob was the lead cost engineer on the SIOP Tiger Team. He was the designated subject matter expert in waterfront / marine construction and Independent Cost Estimate (ICE) process where he contributes as a leader and as an individual. In addition, Bob was involved in policy and guidance for cost engineering standard operating procedures. Bob's role reached outside of his regional command of the Atlantic region where he provides cost training topics and performed ICE for all enterprise projects throughout NAVFAC. In addition, Bob uses his role to verify compliance with ICE for CAPE requirements and regulations. As a Contracting Officer's Representative for LANT and ICE Projects, Bob has experience analyzing, evaluating and proposing recommendations for engineering and project management problems, and presenting the findings to other employees or senior management officials.

LOUISIANA STATE UNIVERSITY 2024-2025

Baton Rouge, LA | Adjunct Lecturer | Construction Management

Bob taught coursework involving his expertise in estimating, scheduling, and operations at the Bert L. Turner Department of Construction Management in LSU's School of Engineering.

STANTEC CONSULTING SERVICES 2019-2023

Chicago, IL | Lead Estimator | Project Size Range: $1M-$5B

Stantec is a global design and consulting firm that provides professional services in the fields of engineering, architecture, environmental sciences, and project management. Bob was the technical lead for Stantec's Construction Engineering Group. In this role, Bob oversaw the cost and schedule functions of Class 5-Class 2 estimates and schedules. In this role, Bob was often relied upon to provide feasibility of means and methods for highly technical projects involving SIOP. Bob's cost and schedule analysis was often used to brief executive levels of the US Navy of potential issues and methods to mitigate. Bob was relied upon in negotiation process to determine independent estimates for Navy/Contractor for change orders in excess of $100M.

JAMES MCHUGH CONSTRUCTION 2018-2019

Chicago, IL | Estimator / Project Manager | Project Size Range: $1M-$10M

James McHugh is a 125-year-old general contractor based in Chicago. McHugh was a diverse business with the application of both vertical (high-rise) work and horizontal (heavy-civil) work.

Bob was hired at McHugh to bring expertise in structures and heavy-lift to the rail/infrastructure group. While at McHugh, Bob prepared estimates with precise lift plans and hourly schedules for mission-critical rail outages. Projects were throughout the Midwest and Southwest region of the US for clients including Norfolk Southern, Canadian Pacific, and Union Pacific.

SUPERIOR CONSTRUCTION 2015-2018

Gary, IN | Project Manager / Estimator | Project Size Range: $1M-$30M

Superior Construction is a heavy-civil contractor with a regional office located in Northwest Indiana. Bob was hired on to assist in the growing a company with yearly regional revenues of $15M to a company with regional revenues of $60M+ and expanding their reach from Northwest Indiana to the Midwest region of Illinois, Central Indiana, Michigan, Tennessee, and Kentucky. In his role, Bob was responsible for project delivery from "Cradle to Grave," initially bidding a project, procurement / preconstruction, managing the project, and closing it out.

K-FIVE CONSTRUCTION CORP 2012-2015

Chicago, IL | Project Manager | Project Size Range: $1M-$30M

K-Five Construction is a paving contractor on the southwest side of the Chicagoland area. They perform paving services for the municipalities, private clients, and the Chicago Department of Aviation. During his time at K- Five, Bob managed a multi-year Job-Order Contract with the Chicago Department of Aviation at Midway and O'Hare airports. The project involved year-round maintenance of taxiways and runways. Bob oversaw all cost forecasting and tracking along with accounts receivable invoicing. Bob also began estimating projects during winter months.

SKANSKA USA CIVIL SOUTHEAST 2008-2012

Mid-Atlantic Region | Project Engineer | Project Size Range: $30M-$260M

Skanska USA Civil is a division of Skanska, a leading global construction and development company. Skanska USA Civil specializes in heavy civil construction and infrastructure projects, Bob began his career as a Field Engineer tracking costs and familiarizing himself with means and methods in heavy-civil construction. Bob's roles ranged from an office-based project controls role to a field superintendent and every role in between. During his advancement Bob was often called to lead elevated risk activities in high-profile jobs.

REGISTRATIONS & CERTIFICATIONS

Professional Engineer (PE), State of Maryland #59694, Renews August 2026
Tri-Service Certified Cost Engineer (CCE), 2024
Contracting Officers Representative (CoR), Department of Defense, 2024
Cost Professional (CCP), AACE International, Morgantown, West Virginia, United States, 2021
Certified Professional Constructor (CPC), American Institute of Constructors, Alexandria, Virginia, 2014,
OSHA 30, OSHA 29 CRF 1926 (Construction), Occupational Safety and Health Administration, 2008

PUBLICATIONS / PRESENTATIONS

8. *Contributing Author,* Construction Depth Reference Manual for the Civil PE Exam, Kaplan Publishing, 2025
7. Ryan, R., *Invited Presenter*, "Project Controls on the Indian River Inlet Bridge" AAECI Student Chapter, Nov. 14, 2024
6. Ryan, R., *Invited Presenter*, "Best Practices in Independent Cost Estimates (ICE)" Tri-Services Cost CoP Feb. 14, 2024
5. Ryan, R., *Invited Presenter*, "Best Practices in Supplemental Schedules" Tri-Services Cost CoP Feb. 13, 2024
4. Ryan, R., Measuring the Impact of DBE Goals in Heavy-Highway Project Procurement, *Draft
3. *Contributor*, Facilities Criteria - Navy and Marine Corps Design Procedures FC-1-300-09N, Chapter 9 – Cost Estimates, Risk Analysis, Construction Schedules, and Value Engineering
2. Ryan, R, Rapp, R, Shaurette, M, Hubbard, S. Examining External Market Factors Compensating for Bid Difference in Heavy Highway Construction, American Institute of Constructors, 2018.
1. Ryan, R. *Poster Presenter,* Are DBEs Qualified to Perform and Sustain Work? A Guide to Best Practices for DBEs on Heavy Highway Projects, Associated Schools of Construction, 2015

MEMBERSHIPS

Society of American Military Engineers (SAME)
American Institute of Constructors (AIC)
Association for the Advancement of Cost Engineering (AACE)
National Society of Professional Engineers
American Society of Civil Engineers
The Dispute Resolution Board Foundation

PROJECT EXPERIENCE

TRANSPORTATION & INFRASTRUCTURE (Operations)

DOT Projects | Various State Agencies in the Southeast | Chicago, IL | USD 5M-30M | 2022-Present | Estimator/Project Manager

Bob serves as a part time consultant role focused on procuring and managing work on a local and regional scale. He was responsible for each project from inception to closeout. The estimating portion of his work consisted of aligning core strengths with complex projects to meet Owner's needs, with responsibilities included development of a full understanding and costing of scope including self- perform costing, subcontractor and supplier scope conformance, and the establishment of wage and burden rates.

SR 376 Over Alapahoochee River | Echols County, GA | USD 9M | 2022 | Preconstruction Manager

This project involved more than 4,000 LF of foundation piling, 1,500 CY of structural concrete, 3,000 tons of asphalt, in addition to earthwork/grading, maintenance of traffic, and other ancillary improvements. Bob was responsible for subcontractor and supplier procurement, submittals, hiring and staffing, equipment utilization, creation and update of critical path schedule, and overall administration of the project.

11th Street Interchange | District of Columbia DOT | Washington, District of Columbia | USD 260M | 2010-2012 | Project Engineer

Project Engineer over north and river work areas (2/3 of project). Supervision included five field engineers and indirect reporting of three craft superintendents. At time of award, project was DDOTs largest single awarded project. Project connected I-295 to the Southeast/Southwest Freeway (I-695) in Washington DC. Project included eighteen bridges, 40 lane miles of highway, and over 25,000 SF of retaining wall.
Responsibilities included procurement, interfacing between designer and owner's representatives, local community (including Naval Yard, Anacostia Boat Club), conflict resolution, mitigating high risk activities on schedule, creating RFI's/Submittals, review of critical lift plans and designated signal person, review of quantity claiming and 4-week schedules with project staff, subcontractor coordination, pay estimates, and preparation of monthly forecasts. Direct areas included pile driving, substructure concrete placement, demolition, girder erection, MSE wall construction, bridge deck placement, and earthwork, and asphalt paving.

Indian River Inlet Bridge | Delaware Department of Transportation | Rehoboth Beach, Delaware | USD 150M | 2009- 2011 | Project Engineer

Design-Build of a cable-stayed structure adjacent to the Atlantic Ocean. Structure is approximately 2500' long spanning the Indian River Inlet in Rehoboth Beach, Delaware. Project included installation of over 40,000 LF of 36" Precast pile, over 50,000 CY of cast in place concrete for a cast in place segmental cable stay bridge. Reported to General Superintendent. Role was a hybrid role of lead engineer and superintendent on south portion, approximately 60% of contract value. Superintendent roles included workforce management, equipment management, supervision of pile driving, cast-in place concrete, construction of pier table and transition piers, excavation, assembly of form traveler, installation of unique bridge bearing components, falsework/shoring construction, construction of CIP edge girders, and post tensioning. Engineering duties included preparation of work plans and critical lift plans and designated signal person, prepare and revise project quality control plan cost and quantity tracking/forecasting, creating 4-week look ahead schedule, interfacing between designer and owner's representatives, updating CPM schedule, concrete quality control, welding inspections, construction material procurement, coordination with subcontractors, surveyors, and concrete dispatchers, and developing and generating RFI's

DOT Projects | Various State Agencies in the Midwest | Gary, IN | USD 500M | 2015-2018 | Estimator/Project Manager

Bob served in a dual role focused on procuring and managing work on rail projects and private developments on a local and regional scale. He was responsible for each project from inception to closeout. The estimating portion of his work consisted of aligning core strengths with complex projects to meet Owner's needs, with responsibilities included development of a full understanding and costing of scope including self- perform costing, subcontractor and supplier scope conformance, and the establishment of wage and burden rates.

Judith Stewart Dresser Memorial Bridge (Route 5) | Charles City and James City Counties, Virginia | 2008 | Field Engineer

Field Engineer on a 3,600 LF pile supported bridge over the Chickahominy river. Project involved installation of 54" diameter piles, cast-in-place structure in a marine environment, and demolition of existing swing span structure.
Project utilized a combination of precast and steel girders. Project specific roles included survey, scheduling, material delivery coordination, quality control inspections, and cost controls.

MILITARY - DRY DOCK AND MARINE STRUCTURES

MILCON Project P-454 Multi-Mission Dry Dock Replacement | Bremerton, WA, USA | USD XX | 2023-Present | ICE Facilitator

Performed ICE facilitation and analysis to identify and explain nearly ~ $1 billion in cost differences.

MILCON Project P-472 Pier 2 Replacement | Bremerton, WA, USA | USD XX | 2024-Present | ICE Facilitator

Performed ICE facilitation and analysis to identify and explain nearly ~ $300 million in cost differences.

MILCON Project P-617 Transit Protection Program Facility | Kings Bay, GA, USA | USD XX | Present | ICE Facilitator

Dry Dock 4 Seismic Vulnerability Assessment | Bremerton, WA, USA | USD 300M+ | Present | Reviewer

MILCON Project P-1062 Dry Dock 3 Retrofit | Norfolk, VA, USA | USD XX | 2023 | ICE Reviewer

RM22-0455 Berths 40/41 | Norfolk, VA USA | USD 100M+ | 2024-2025 | Cost Engineer

Performed cost and schedule analysis on design-build change orders related to environmental impacts and delays.

MILCON Project P-209 PHNSY Dry Dock 3 Replacement | Honolulu, HI, USA | USD 3B | 2020-2022 | Lead Estimator

Lead estimator responsible for independent estimate, independent schedule, and site logistics plan for project. Project is a 4-year construction duration with an estimate value of $3B+. Project involves utilizing precast and cast in place components to construct a new dry dock in Pearl Harbor. Project involves over 120,000 CY of concrete, 250,000 CY of dredging, and 35,000 tons of Combi-Wall.

MILCON Project P-381 Multi-Mission Dry Dock #1 Modernization, Portsmouth Naval Shipyard | NAVFAC, MIDLANT | Kittery, Maine | USD 2.5B | 2019-2023 | Senior Estimator

Estimator in charge of developing cost and schedule components of complex precast elements from fabrication, launching, and installation. Responsibilities also included civil site development, suspended structures, and rail works. Estimated project value is $2.5B+ with a 5-year construction duration. Currently overseeing any contractor claims for additional costs, schedule impacts, and cost accelerations

MILCON Project P-1044 Pier 31 Extension | NAVFAC | New London, Connecticut | USD 30M | 2021-2023 | Lead Estimator

The existing pier addition to accommodate Virginia Class Block 5 Submarines. Project involves new substructure, new deck, and relocation of mechanic. and electrical systems on the Thames River. Project is estimated at $30m with a 2-year construction duration.

MILCON Project P-194 Pier 8 Extension | NAVFAC | New London, Connecticut | USD 90M | 2022-2023 | Reviewing Estimator

The existing pier addition to accommodate Virginia Class Block 5 Submarines. Project involves new substructure, new superstructure, and relocation of mechanical and electrical systems on the Thames River. Project is estimated at $60m with a 3-year construction duration.

Dry Dock 1 Caisson | NAVFAC | Portsmouth, New Hampshire | USD 30M | 2020-2023 | Estimator

Estimator providing oversight of Class 4 and Class 3 estimates for new caisson fabrication of Dry Dock 1E. Project involved examination of three alternate concepts with additional repairs for inner and outer seals of caisson seat.

Preliminary Design, Additional Berths at Portsmouth Naval Shipyard | NAVFAC | Portsmouth, New Hampshire | 2020-2023 | Lead Estimator

14 Parametric estimates for multiple scenarios for additional berthing locations at Portsmouth Naval Shipyard. Estimates range from $200m to $700m.

Berths 3 & 4 Construction | NAVFAC | Portsmouth, Virginia | USD 20M | 2008-2009 | Project Engineer

Project involved dredging, pile driving, installation of precast elements and tremie concrete installation at Norfolk Naval Shipyard. Role included project controls to oversee change order process. Role gradually increased to on-site QA/QC assistance, precast inspection, and updating QA/QC manual. The contract value was $20m+ with a 2-year construction duration.

MILITARY - FACILITIES

MILCON Project P-788 Trident Refit Facility Warehouse | Kitsap, WA, USA | USD XX | 2024-2025 | Reviewing/Certifying Engineer

MILCON Project P-859 Electrical Upgrades for Ford Class Carriers | Kitsap, WA, USA | USD XX | 2024-2025 | Reviewing/Certifying Engineer

MILCON Project P-732 Electrical Upgrades at Norfolk Naval Shipyard | Norfolk, VA, USA | USD XX | 2023-2025 | Cost Engineer

MILCON Project P-1080 Electrical Upgrades at Portsmouth Naval Shipyard | Kittery, ME, USA | USD XX | 2023-2025 | ICE Facilitator

Performed ICE facilitation and analysis to identify and explain nearly ~ $40 million in cost differences.

MILCON Project P-1278 Waterfront Production Facility | Norfolk, VA, USA | USD 1B | 2023-2025 | Reviewer

MILCON Project P-910 Working Dog Facility | Key West, FL, USA | USD 20M | 2024-2025 | Scheduler

Created class 4 & 3 schedules for a 2-year project.

MILCON Project P-111 | Sigonella, Italy | USD 10M | 2023-2025 | Estimator

Estimated drilled shaft foundations for a type D magazine.

AIRPORT AIRSIDE INFRASTRUCTURE (Operations)

Asphalt Term Overlay Maintenance Project | Chicago Department of Aviation | Chicago, Illinois | USD 30M | 2012- 2015 | Project Manager

Generating and submitting proposals for Job Order Contracting for an existing contract covering runway and taxiway rehabilitation projects at O'Hare and Midway Airports using existing established pricing. Project involved daily coordination of construction activities in limited work windows with overnight closures. Reported to General Superintendent and Senior Project Manager. Project execution responsibilities included negotiation of pricing, daily coordination with foreman/superintendent for operational tasks including trucking, asphalt, crews, quality control, & subcontractors, monthly invoice processing, preparation of change orders, contract management, and preparation of monthly schedules.

ROAD AND RAIL INFRASTRUCTURE

Estimator | Various - Including Norfolk Southern, Union Pacific, and BNSF | Chicago, Illinois | USD 25M | 2018-2019 | Estimator/Project Manager

Dual role focused on ability to procure and manage work on rail projects and private developments on a local and national scale. Reported to Senior Vice President. Pursuits have occurred in the local Chicago market, along with Midwest, Southeast, and Southwest portions of the US. Responsible for project from inception to closeout. Focus includes selecting specific projects that align with our skill set to focus on efficiency and effectiveness to increase profitability. This included an understanding of the conditions of local market and national scale and applying the understanding into an effective plan to reduce risk. Estimating portion consists of aligning core strengths with complex projects to meet owner's needs. Estimating responsibilities included full understanding and costing of scope of project, including self-perform costing, subcontractor & supplier scope conformance, establishing wage and burden rates.
Project management portion includes post-contract buyout, negotiation, creation and establishment of budget and schedule, billing and receivables, quality control, change order negotiation, and adherence to specifications and plans.

WATER TRANSMISSION

Potomac River Tunnel Project | DC Water | Washington, DC | USD 1B | Senior Estimator

Bob served as the Senior Estimator on a design-build pursuit. Project involved construction of 9 shafts and approximately 9 miles of tunnel from Georgetown to Joint Base Anacostia-Bolling. Lead estimator for saft construction and support of excavation at all 10 locations.

C-51 Impoundment | South Florida Water Management District | Palm Beach, FL | USD 60M | Lead Estimator

Bob served as the Lead Estimator for a $60 million project involving new reservoir construction in southwest Florida. He provided constructability and cost implications.

Lincoln Yards Connection into Tunnel and Reservoir Plan (TARP) | Metropolitan Water Reclamation District of Greater Chicago (MWRD) | Chicago, IL | USD 20M | Lead Estimator

Bob served as the sole estimator responsible for developing conceptual costs for construction of a tie-in drop shaft to MWRD's TARP/Deep Tunnel. The project value was $20 million.

1909 Water Intake | City of Evanston | Evanston, IL | USD 40M | 2019-2022 | Senior Estimator

As Senior Estimator, Bob is responsible for the overall cost and schedule of a $40 million project involving 5,000 linear feet of 60-inch freshwater delivery system in Lake Michigan for the Evanston Water Department. His responsibilities included coordination of contractor involvement, historical pricing, means and methods input, updating of the macroeconomic indicators, creation of construction schedule and sequencing, and initial vendor solicitation.

Alternative Water Source Program | City of Joliet | Joliet, IL | USD 1B | Lead Estimator

As Lead Estimator, Bob is responsible for the overall estimate for a 30+ mile freshwater intake connecting the City of Joliet to Lake Michigan. This $1 billion program consists of five to ten individual projects that tie into the Chicago Department of Water Management through the southwest suburbs of the Chicago Metropolitan area. The project consists of various bore, blasted, and cut and cover tunnels, with supporting access shafts, telecommunications, and water treatment plants.

Oakdale Dam Repairs | Northern Indiana Public Service Company | Monticello, IN | USD 5M | 2019-2022 | Lead Estimator

Bob served as Estimator for a $5 million project consisting of concrete rehabilitation, gate replacement, and tumble bay repairs of a privately owned hydroelectric dam.

Lac Qui Parle Spillway Reconstruction | U.S. Army Corps of Engineers | Watson, MN | Supervising Estimator

Bob oversaw five separate Class 3 estimates to determine the economic feasibility of alternate design types for a mile- long spillway replacement in Western Minnesota. The current scenario value is $5 million.