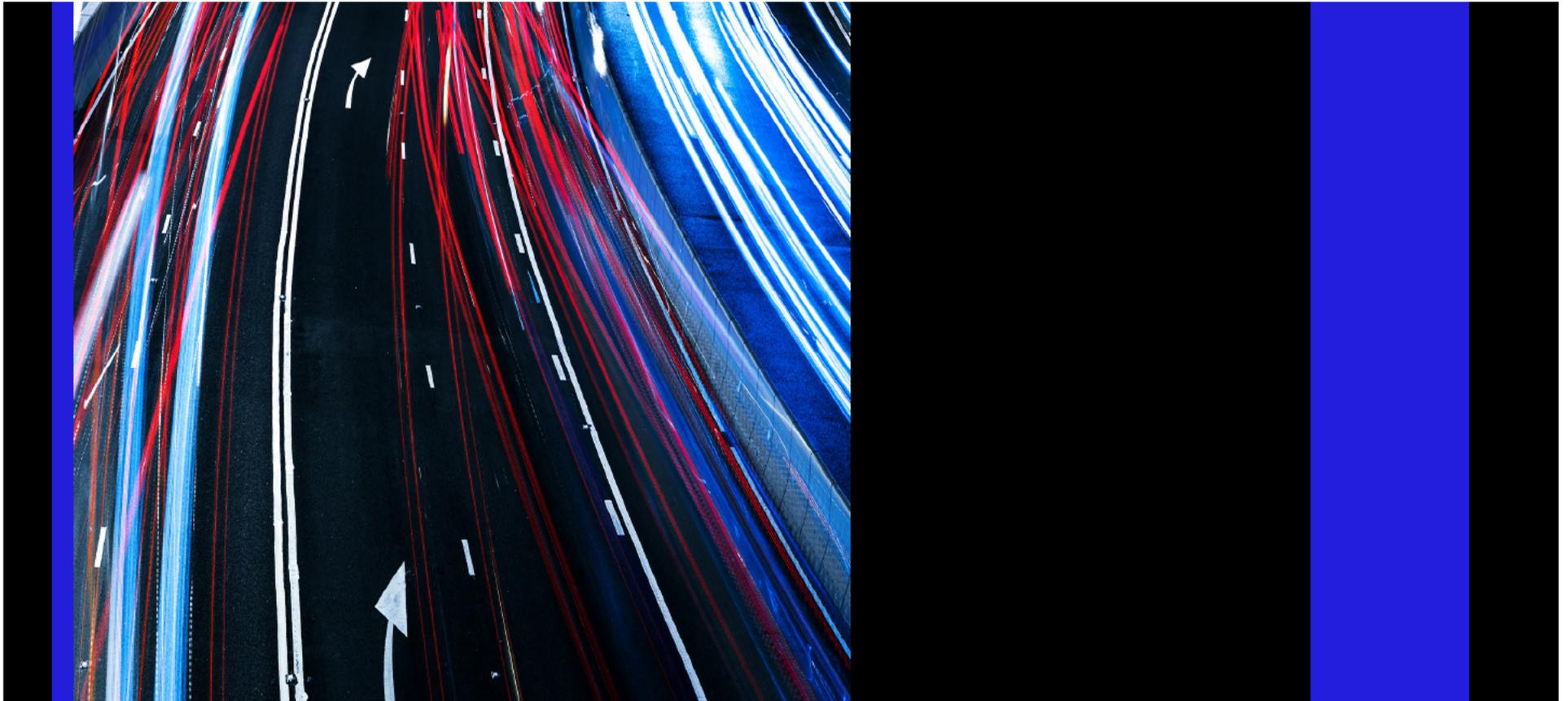


# IDIQ Contracts for Independent Cost Estimating Statewide

Louisiana Department of Transportation and Development  
November 28, 2023





Submitted via email to: DOTDConsultantAds80@la.gov

November 28, 2023

Louisiana Department of Transportation and Development (DOTD)  
1201 Capitol Access Road  
Baton Rouge, LA 70802

**RE: IDIQ Contracts for Independent Cost Estimating (ICE) Statewide; Contract No. 4400028094, 4400028095, and 4400028096**

Dear Members of the Project Evaluation Team:

DOTD is seeking ICE and scheduling services from qualified consultants on projects requiring in-depth cost and schedule analysis. The Jacobs team benefits include:

- **Local project manager with CM/GC experience:** Proven project manager Sean Warren, PMP, PE, brings 25 years of experience managing heavy civil and transportation related projects in Louisiana, including alternative delivery projects such as design-build and CMAR, as well as 25 years of hard bid general estimating experience. Ben Kamph, lead estimator, brings 24 years' experience in transportation-related cost estimating for over \$2.5B in construction value of CM/GC projects, risk mitigation and procurement strategies, and industry best practices with a track record of 104% estimating accuracy from engineering estimate to actual bid. We have teamed with Legis Consultancy and their team of highly credentialed, cost engineering professionals for technical reviews and expert project controls support. Should additional reach back staff be required to address an unforeseen need, Jacobs and Legis offer expertise in all aspects of the project lifecycle and can mobilize additional personnel to support the team with minimal notice.
- **Collaborative, proactive, value-driven approach:** The Jacobs team has successfully integrated with existing capital project teams at all stages of project development. Our collaborative approach to providing ICE services allows us to develop high-functioning, and results-driven processes that will fully leverage the unique expertise your designer and CM/GC bring to the table, while driving adjustments to scope, schedule, budget, and risk mitigation strategies that will maximize value for DOTD.
- **Industry-leading experience:** Unique infrastructure redevelopment projects can often mean surprises, as unknown and unforeseen conditions are revealed through the project planning phases. Our expertise and experience providing ICE services for transportation and heavy civil projects provides us with a robust background evaluating designer and CM/GC assumptions, risk contingencies, market conditions, resource limitations, and more. In addition to ICE, our project team has assisted clients with value engineering (VE) alternatives, risk analysis, construction schedule pull-planning, procurement, and reporting. We will utilize this expertise to help

**Jacobs has extensive experience with the CM/GC contracting method and in generating accurate and comprehensive cost estimates for heavy civil and transportation infrastructure to successfully deliver any project for DOTD under this contract.**

identify long-lead items, contingencies, and schedule float early through a detailed risk register and constructability reviews. We will provide information at all phases to help keep projects within budget and schedule.

Jacobs Engineering Group Inc. has reviewed the terms and conditions of the sample contract and incorporated documents and finds them generally acceptable. However, Jacobs is submitting this proposal with the understanding and expectation that the DOTD and Jacobs will have the opportunity to work together to create a mutually acceptable agreement supplementing and modifying the terms and conditions.

We are ready and able to work with your team. We look forward to working with DOTD to perform these services efficiently, effectively, and with the highest quality, maximizing our value at every turn.

Sincerely,

Handwritten signature of Sean Warren in cursive script.

Sean Warren, PMP, PE  
Project Manager

Handwritten signature of Carlos Giron in cursive script.

Carlos Giron, PG  
Vice President

# **DOTD FORM: 24-102**

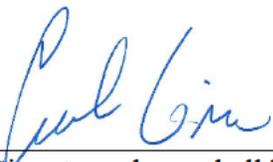
(Revised January 1, 2023)

## **PROPOSAL TO PROVIDE CONSULTANT SERVICES**

Prime consultant shall complete the DOTD Form 24-102 without altering the Form's text; however, the instruction and/or guidance for Sections 12 through 23 can be removed but do not remove Section title and number.

ANY CONSULTANT FAILING TO SUBMIT ANY OF THE INFORMATION REQUIRED ON THE DOTD FORM 24-102, OR PROVIDING INACCURATE INFORMATION ON THE DOTD FORM 24-102, MAY BE CONSIDERED NON-RESPONSIVE.

1. Contract Name as shown in the advertisement.	IDIQ Contracts for Independent Cost Estimating Statewide
2. Contract Number(s) as shown in the advertisement.	4400028094, 4400028095, and 4400028906
3. State Project Number(s), if shown in the advertisement.	None
4. Prime consultant name ( <b>name must match as registered with the Louisiana Secretary of State where such registration is required by law</b> ).	Jacobs Engineering Group Inc.
5. Prime consultant license number (as registered with the Louisiana Professional Engineering and Land Surveying Board (LAPELS) if registration is required under Louisiana law).	EF.0000453
6. Prime consultant mailing address.	100 North St., Suite 901 Baton Rouge, LA 70802
7. Prime consultant physical address (existing or to be established, if location is used as an evaluation criteria).	100 North St., Suite 901 Baton Rouge, LA 70802
8. Name, title, phone number, and email address of prime consultant's contract point of contact.	Sean Warren, PE, PMP Project Manager 985.778.4337 <a href="mailto:Sean.Warren1@jacobs.com">Sean.Warren1@jacobs.com</a>
9. Name, title, phone number, and email address of the official with signing authority for this proposal.	Carlos Giron, PG Vice President 225.208.2264 <a href="mailto:carlos.giron@jacobs.com">carlos.giron@jacobs.com</a>

<p><b>10.</b> This is to certify that all information contained herein is accurate and true, and that the team presently has sufficient staff to perform these services within the designated time frame. By submitting this proposal, proposer certifies that it is not engaged in a boycott of Israel and it will, for the duration of its contract obligations, refrain from a boycott of Israel. Proposer also certifies and agrees that the following information is correct: In preparing its response, the proposer has considered all proposals submitted from qualified, potential subcontractors and suppliers, and has not, in the solicitation, selection, or commercial treatment of any subcontractor or supplier, refused to transact or terminated business activities, or taken other actions intended to limit commercial relations, with a person or entity that is engaging in commercial transactions in Israel or Israeli-controlled territories, with the specific intent to accomplish a boycott or divestment of Israel. The proposer also has not retaliated against any person or other entity for reporting such refusal, termination, or commercially limiting actions. DOTD reserves the right to reject the response of the bidder or proposer if this certification is subsequently determined to be false, and to terminate any contract awarded based on such a false response.</p>	 <p>Signature above shall be the same person listed in Section 9:</p> <p><u>11-28-23</u> Date:</p>
<p><b>11.</b> If a Disadvantaged Business Enterprise (DBE) goal has been set for this advertisement, indicate which firm(s) will be used to meet the DBE goal and each firm(s)' percentage.</p>	<p>Firm(s): None</p>

# **IDIQ Contracts for Independent Cost Estimating Statewide**

**Louisiana Department of Transportation and Development**

## **Section 2 – 24-102**

**Section 12: Past Performance Evaluation Discipline Table**

**Section 13: Firm Size**

**Section 14: Organizational Table**

**Section 15: Minimum Personnel Requirements**

**12. Past Performance Evaluation Discipline Table:**

Past Performance Evaluation Discipline(s)	% of Overall Contract	Prime Jacobs	Firm B Legis	Firm C	Firm D	Firm E	Each Discipline must total to 100%
Other – ICE Contract Services	IDIQ – 100%	80%	20%				<b>100%</b>
Identify the percentage of work for the <b>overall contract</b> to be performed by the prime consultant and each sub-consultant.							
Percent of Contract	<b>100%</b>	<b>80%</b>	<b>20%</b>				<b>100%</b>

**13. Firm Size:**

Firm name	DOTD Job Classification	Number of personnel committed to this contract	Total number of personnel available in this DOTD Job Classification (if needed)
Jacobs Engineering Group, Inc.	Principal	1	208 (firmwide)
	Project Manager	1	13 (Louisiana)/5,099 (firmwide)
	Supervisor - Engineer	1	24 (Louisiana)/18,606 (firmwide)
	Planner	6	6 (Louisiana)/3,088 (firmwide)
Legis Consultancy, Inc.	Project Manager	1	2
	Supervisor - Engineer	1	2
	Planner	1	2

14. Organizational Chart:



**15. Minimum Personnel Requirements:**

MPR No. Do not insert wording from ad	Personnel being used to meet the MPR (Individual(s) may not satisfy more than one MPR unless specifically allowed by Attachment B of the advertisement)	Firm employed by	Type of license and discipline meeting MPR/ certification & number (Ex: PE # - Civil)	State of license	License / certification expiration date
1	Steven Sisneros	Jacobs Engineering Group Inc.			
2, 3, 4	Sean Warren, PE, PMP	Jacobs Engineering Group Inc.	PE# 0035747 - Civil	LA	03/31/2025
3	Ben Kamph	Jacobs Engineering Group Inc.			
4	Dicky Putz, CCM, PMP	Jacobs Engineering Group Inc.			
4	Rick Hults	Jacobs Engineering Group Inc.			
4	Chad Skeels	Jacobs Engineering Group Inc.			
4	Dan Adams, PE	Jacobs Engineering Group Inc.	PE# 556228 - Civil	VA	5/31/2024
4	Jereme Eklund	Jacobs Engineering Group Inc.			
4	Michael Boraks, PE	Jacobs Engineering Group Inc.	PE#048834 - Civil	CA	9/30/2024
4	Nurez Damani, P.Eng	Jacobs Engineering Group Inc.	P.Eng (Canada) Civil	N/A	International
4	Mike Ray, PE, CCP, PSP, PMP	Legis Consultancy, Inc.	PE# 018137 - Civil	GA	12/31/2023
4	Mohamed El-Gafy, PhD, PE	Legis Consultancy, Inc.	PE# 6201062235 - Civil	MI	02/20/2025
5	Agustin Villafana, PE, PMP	Jacobs Engineering Group Inc.	PE# 145332 - Civil	TX	6/30/2024
5	David Fortner	Jacobs Engineering Group Inc.			
5	Mike French, PE, CEP, PSP, CCP	Legis Consultancy, Inc.	PE# 103215 - Civil	TX	03/31/2024

# **IDIQ Contracts for Independent Cost Estimating Statewide**

**Louisiana Department of Transportation and Development**

## **Section 3 – 24-102**

**Section 16: Staff Resumes**

**Section 17: Firm Experience**

**Section 18: Approach and Methodology Narrative**

**16. Staff Experience:**

Jacobs Engineering Group, Inc.			
	<b>Steven Sisneros</b>	Years of relevant experience with this employer	<b>15</b>
Title	<b>Director of Program &amp; Project Delivery Services</b>	Years of relevant experience with other employer(s)	<b>10+</b>
Degree(s) / Years / Specialization		Georgia Technical College / 1996 / BSEE Colorado State / No Degree / Construction Management Course Work	
Active registration number / state / expiration date		N/A	
Year registered	N/A	Discipline	N/A
Contract role(s) / brief description of responsibilities		<b>Project Manager/Cost Estimating Lead/Constructability Review</b> Steve is Jacob's National practice leader for project controls, scheduling, and cost estimating services. He will serve as our team's project principal and has over 25 years' experience within his profession and expert in cost and schedule management.	
07/2008 – Present	<p><b>Jacobs – Project Management Professional – Senior</b></p> <p>Steve is an industry veteran with diverse field of experience including but not limited to, Water/Wastewater, Power, and Transportation. Has come up from the construction trade as a Master Electrician, Major General Contractor field engineer, Project Engineer (Cost, Schedule &amp; Risk Management) to General Contractor Senior Project management. Transitioned to the engineering industry in 2008, as a program manager and quickly moved to Global Project Controls and Estimating Manager where he served in this role until his current role of Americas Director of Project Delivery Services. This role requires leadership of talented national discipline management teams for Cost Controls, Project Controls, Scheduling, Risk Management and Document Controls/Record Retention.</p> <p>Steve's strengths are client relations, program/project delivery setup &amp; execution, and risk mitigation.</p> <p><b>Relevant Project Experience:</b></p> <p><b>Project/Program Management/Project Controls/Risk Management, Current: I-285 Top End Express Lane Project, GDOT, Atlanta GA, 2020-Present.</b> Scope/Description/Value: Jacobs is the general engineering consultant (GEC) for the development of a very large alternative delivery (DBFOM with revenue risk) project for the construction of express lanes along the northern half of the I-285 beltway in Atlanta. The project is broken into three delivery phases, the East Phases 1 and 2 and the West Phase1 and proposes to add two new mostly elevated, express lanes in both directions of I-285 between Paces Ferry Road clockwise to the east to Henderson Road with major interchange connections to I-75, SR400, and I-75. The project is expected to be procured in mid-late 2023 with overlapping 6-year construction durations for each phase. The current estimated cost of construction approaches \$9B. Steve serves as delivery oversight leader, in support of all aspects of quality, cost, schedule, and risk.</p>		

	<p>Technical Highlight: Germany: SuedLink High Voltage Direct Current (HVDC) Transmission Project, The SuedLink high-voltage direct current (HVDC) transmission line to be developed in Germany is expected to be the longest underground HVDC power cable in the world. Covering a total route length of 750km, the 525kV underground power line will be capable of transmitting up to 4GW of offshore wind power from north to south Germany while also facilitating the transmission of solar energy from south to north Germany.</p>
<p>Experience Prior to Jacobs 1996 - 2008</p>	<p><b>Kiewit / Western Summit Constructors</b></p> <ul style="list-style-type: none"> <li>• Senior Project Manager, Central Plant; South Secondary Treatment Facilities; Phase 2, Bid Package No. 2, Grit Basins No. 7 and 8; Clark County Water Reclamation District; Las Vegas, Nevada (\$14.6 Million).</li> <li>• Project Manager; Northern Water Reclamation Facility; Colorado Springs Utilities; Colorado Springs, Colorado (\$62.5 Million).</li> <li>• Senior Project Manager; South Central WWTP, Contract 1 – Treatment Plant; Douglasville-Douglas County Water Sewer Authority; Douglasville, Georgia (\$53 Million).</li> <li>• Senior Project Manager; F. Wayne Hill WRC Phase 2, Contract #4, AWT Facilities; Gwinnett County; Buford, Georgia (\$86 Million).</li> <li>• Electrical Project Manager; Shoal Creek Filter Plant; Gwinnett County; Buford, Georgia (\$104 Million).</li> <li>• Senior Project Engineer; ECCV Western Pump Station; East Cherry Creek Valley Water &amp; Sanitation District; Aurora, Colorado (\$9.3 Million).</li> </ul>

Jacobs Engineering Group, Inc.			
	<b>Sean Warren, PE, PMP</b>		Years of relevant experience with this employer
			< 1
Title	<b>Project Management Professional – Senior</b>		Years of relevant experience with other employer(s)
			25+
Degree(s) / Years / Specialization		Michigan State / 2003/ BS Civil Engineering	
Active registration number / state / expiration date		PE#00035747 / Louisiana / 2025	
Year registered	2008	Discipline	Civil Engineering
Contract role(s) / brief description of responsibilities		<p><b>Project Manager/Cost Estimating Lead/Constructability Review</b> Sean will serve as a local project manager and coordinate/manage prime consultant and subcontractor activities. Additionally, he will provide lead cost estimator, support as constructability and value engineering specialist. His 25 years of experience significantly exceeds the minimum requirements for MPRs 2, 3, &amp; 4.</p>	
07/2023 – Present	<p><b>Jacobs – Project Management Professional – Senior</b> Providing PM/CM services on CPRA Mid-Basin Sediment Diversion Program. Managing the cost estimating and change order negotiations for both sediment diversion structures on the Mississippi River. Total program construction value exceeds \$2B and includes road, bridge, traffic, CE&amp;I/OV, Geotech, survey, environmental, data collection, planning, right-of-way, CPM, appraiser, and other related work.</p>		
Experience Prior to Jacobs 05/2013 – 07/2023	<p><b>LLC Manager and Principal for Native Engineers, LLC</b> Provided PM/CM and cost engineering services for the following clients and programs:</p> <ul style="list-style-type: none"> <li>• Port New Orleans LIT – CMAR Construction Value: \$1.8B. Role: Native Engineers provided ICE services to the Port in support of this large infrastructure program. Since 2022.</li> <li>• Port New Orleans Jourdan Road Wharf Rehab – CMAR Construction Value: \$15M. Native Engineers provide ICE services to the Port on the marine structure. Since 2019</li> <li>• CPRA Mid-Barataria – CMAR Construction Value: \$1.8B. Provided ICE services as contractor to Stanton Constructability. Since 2018</li> <li>• CPRA Mid-Breton – CMAR Construction Value: \$900M. Provided ICE services as the Managing JV partner of the ICE Support Contract to CPRA. Since 2019.</li> <li>• GSA IDIQs – Design-Build Services Multiple IDIQ Contracts. Provided contractor estimates for design-build firm fixed price task orders. Work included dozens of interior renovations of government owned facilities. Since 2018.</li> <li>• USAF SABER IDIQ – Design-build services. Single award base engineering requirements contract. Provided contractor estimates for design-build firm fixed price task orders.</li> <li>• USACE – Design-build construction services for the IHNC-02 Surge Barrier. As the Change Control Manager, was responsible for negotiating change orders on this historic program. The construction value for this program was \$1.3B.</li> </ul>		

	<ul style="list-style-type: none"> <li>USACE – Design-build construction services for the PCCP program. This program constructed the permanent canal closures and pumping stations at 17<sup>th</sup> Street Canal, Orleans Canal, and London Canal. The construction value of this program was \$900M. 2008-2018.</li> </ul>
04/1998 – 05/2023	<p><b>Progressive Experience with HNTB, Parsons Brinckerhoff, and Michigan Department of Transportation</b>  <b>Roles: Intern, Construction Technician, Construction Engineer, Assistant Resident Engineer</b></p> <p>Provided daily construction, inspections, report review, QA test reviews, QA team management, and QA program management for multiple state transportation agencies and municipal clients. Responsibilities also included developing project budgets, budget monitor, contractor pay request, and change order negotiations with contractors/vendors.</p> <p>Select relevant project experience included:  More than 100 miles of roadway/highway/interstate reconstruction experience  Over 20 short-to-medium span bridge projects  Five spliced girder bridges  Cable-Stay Bridge Construction, Veterans Glass City Skyway Toledo, Ohio, \$330M  Movable Bascule Bridge Reconstruction, Toledo, Ohio, \$58M  Fixed structures and movable structures under the USACE IHNC-02 Surge Barrier, \$1.3B</p>

Jacobs Engineering Group, Inc.			
	<b>Ben Kamph</b>		Years of relevant experience with this employer
			<b>12</b>
Title	<b>Lead Cost Estimator</b>		Years of relevant experience with other employer(s)
			<b>12+</b>
Degree(s) / Years / Specialization		Oregon State / 1998 / Civil Engineering	
Active registration number / state / expiration date		N/A	
Year registered	N/A	Discipline	N/A
Contract role(s) / brief description of responsibilities		<b>Lead Cost Estimator</b> Mr. Kamph will be the Lead Cost Estimator for Jacobs (MPiR#3) and is the technical lead for the ICE team. Exceeds the MPR requirements with over 12 years of lead estimator experience with Jacobs and over 24 years of hard bid and ICE cost estimating experience.	
July 2011 – Present	<p><b>Jacobs – Head of Project Controls</b></p> <p>Ben is a national transportation estimating manager, as well as head of cost estimating and scheduling for the \$11 billion HRTTP program in Honolulu, HI. Ben has a career and proven track record of developing reliable costs, schedules, and risk management for transportation agencies around the country. He applies extensive knowledge in the construction industry to his estimating work, which includes 20 years of Heavy Construction Systems Software (HCSS) estimating. He has experience working for two national heavy civil construction firms prior to joining Jacobs. Ben has led proposals for design-bid-build, progressive design build, design-build, P3, and CM/GC, and GMP at all stages of design. Ben also serves as a SME for risk, procurement, and value engineering workshops.</p> <p>Areas of expertise include:</p> <ul style="list-style-type: none"> <li>• Transit, Heavy Civil and Utility Relocation Projects</li> <li>• Strategy and Communication</li> <li>• Capital Cost Estimates</li> <li>• Estimate at Completion (Cost Forecasts)</li> <li>• Procurement Support</li> <li>• Risk Analysis</li> </ul> <p><b>Relevant Project Experience:</b></p> <p><b>Task 1 Lead (Cost, Schedule), Honolulu Rail Transit Project, Client: HART, 2014-Present.</b></p> <p>Ben's leading a team of estimators and schedulers for the GEC IV contract. The team is responsible for developing program capital costs and updated master project schedules and cost forecasts for the 20-mile and 21 station elevated guideway. Total program is currently valued at \$11B. Deliverables include independent cost estimates, monthly schedule updates, change order support, bid document preparation, proposal evaluations, cost forecasts and the development of RFP documents for future procurements.</p>		

	<p><b>Lead Cost Estimator; Wenatchee Confluence Parkway (PDB); Client: City of Wenatchee; 2022-Present.</b> Ben is the Lead Cost Estimator for this 200M roadway and bridge improvement project for the City of Wenatchee. Ben's responsibilities for this Progressive Design Build procurement include, specification writing for PDB procurement, establishing cost estimating procedures, and independent cost estimating and cost reconciliations for the owner.</p> <p><b>Lead Cost Estimator, Seattle Waterfront Program (DBB), Client: City of Seattle, 2011-Present.</b> Ben is the Lead Cost Estimator for this 685M; 2-mile waterfront improvements project including streetscape, roadway, piers, buildings, and structures. The project aim is to revitalize the waterfront and connect with the greater downtown City of Seattle.</p> <p><b>Lead Cost Estimator, Four Pillar Projects (CM/GC, PDB, P3), Client: LA Metro, 2021-Present.</b> Project includes the West Santa Ana Branch, Green Line Extension, Sepulveda Corridor Extension (MRT &amp; HRT) and the East Side Corridor Phase 2. The total value is anticipated to be \$35B. Each project will include SCC 10-80 costs. Ben has subsequently organized his team of industry experts to develop estimates for each project. The intent for Metro is to refresh budgets with reliable and current 2Q2022 costs.</p> <p><b>Lead Cost Estimator, Harlem River Drive Ramp Feasibility, Client: New York City Department of Transportation (NYCDOT), 2019-Current.</b> Ben led a team of estimators to develop the Class 4 Feasibility cost estimate for this signature project for the NYCDOT. The project will improve safety and mobility and an aging ramp along the Trans-Manhattan Expressway, Eastside Access Train Wash and Interlocking Loop.</p>
Experience Prior to Jacobs 2011-1998	Ben has 12+ years of hard bid and ICE experience with other firms.

Jacobs Engineering Group, Inc.			
	<b>Dicky Putz, CCP, PMP</b>	Years of relevant experience with this employer	<b>28</b>
Title	<b>Senior Transportation Estimator</b>	Years of relevant experience with other employer(s)	<b>0</b>
Degree(s) / Years / Specialization		Texas A&M / 1994 / Industrial Education	
Active registration number / state / expiration date		PMP, Project Management Institute & Certified Cost Professional, AACE	
Year registered	N/A	Discipline	N/A
Contract role(s) / brief description of responsibilities		<b>MPIR# 4 – Discipline Estimate – Civil Construction</b> Dicky will lead our civil estimating. He has over 28 years of cost estimating experience with Jacobs and significantly exceeds the minimum requirements for MPR 4.	
1998 – Present	<p><b>Jacobs – Senior Transportation Estimator</b> As a Certified Cost Professional (CCP) Dicky has met specific education and experience requirements, passed the technical paper submittal and an examination designed to assess and measure cost management and cost engineering knowledge. As a globally recognized Project Management Professional (PMP) he has shown he has the experience, education, and competency to lead and direct projects.</p> <p>Area of Expertise HCSS Estimating Cost Estimating for Roadway, Bridge, Transit and Utility Projects. Cost Projections Procurement Support</p> <p><b>Relevant Past Project Experience:</b></p> <p><b>Senior Estimator, Lynnwood Link Extension, L200/L300 (GCCM), Client: Sound Transit, 2018.</b> Dicky supported estimating efforts on heavy civil sitework, drainage, and crossing improvements. Dicky supported the estimating team efforts in developing the IP90% independent cost estimates for 9 miles of at-grade and elevated guideway and stations for Sound Transit. (\$836M)</p> <p><b>Senior Estimator, Seattle Waterfront Program (DBB), Client: City of Seattle, 2017-2018.</b> Dicky supported estimating efforts on heavy civil site work, drainage, concrete paving, architectural surface treatments, pedestrian improvements for this 383M; 2-mile waterfront improvements project including roadway, piers, buildings, and structures.</p> <p><b>Senior Estimator, Abernethy Bridge and I-205 Widening Project, Client: Oregon Department of Transportation, 2018-Present.</b> Dicky supported estimating efforts on heavy civil site work, demolition, drainage, and concrete paving for this \$581M; 7.5-mile freeway and bridge widening and safety improvements project.</p> <p><b>Senior Estimator, RWM Monorail CAPEX Planning Study (DBFOM), Client: Resorts World Miami, 2019-Present.</b></p>		

Dicky supported the estimating efforts on the heavy civil disciplines in developing the Class 5 Planning Study cost estimate for 3.6 miles of elevated monorail and stations for RWM. (\$450M).

**Senior Estimator, Foothill Gold Line Phase 2B (DB), Client: Foothill Gold Line Construction Authority, 2018-Present.**

Dicky supported estimating efforts on site and street improvements in developing the 30% independent cost estimate for 12.3 miles of at-grade and elevated guideway and stations for FGLCA. (\$1.1B).

**Senior Estimator, Spokane Central City Line (DBB), Client: Spokane Transit, 2018 – Present.**

Dicky supported estimating efforts on heavy civil scopes of work, concrete flatwork, and pedestrian improvements to develop the 30% / 60% / 100% independent cost estimates for 38 BRT stations for Spokane Transit. (\$32M).

**Lead Estimator, Loop 1 Mopac Improvement Project (MIP), Client: Central Texas Regional Mobility Authority (CTRMA), Austin, TX, 2015 – 2019.**

\$137M design-build 11.2-mile express lane project within the Loop 1 right of way. Project involved adding express lanes, sound walls, aesthetic and bicycle and pedestrian improvements. Duties included providing support for change orders, claims, project controls and operations project delivery efforts. Estimate development basis ranged from class 5 to class 1 on many of these efforts. Additional support services are provided to Corporate Risk Managers for recovery of cost on numerous vehicular damages caused by the traveling public.

Jacobs Engineering Group, Inc.			
	<b>Rick Hults</b>	Years of relevant experience with this employer	<b>13</b>
Title	<b>Estimating Professional</b>	Years of relevant experience with other employer(s)	<b>30</b>
Degree(s) / Years / Specialization		California Polytechnic State University / 1990 / Construction Management	
Active registration number / state / expiration date		AACE International Member Since 2001	
Year registered	N/A	Discipline	N/A
Contract role(s) / brief description of responsibilities		<b>MPIR# 4 – Discipline Estimate – Structural Estimator</b> Rick will lead our structural cost estimating efforts. He has over 13 years of experience with Jacobs and over years of experience providing cost estimates and bids. This experience significantly exceeds the MPR 4 requirements.	
01/2010 – Present	<p><b>Jacobs– Estimating Professional</b></p> <p>Rick is a senior estimator specializing in cost estimating for transportation projects involving transit, airports, ports, roadways, and bridges. Rick brings experience working in the at-risk heavy–highway civil construction industry with two national, as well as two local, heavy civil construction firms to his estimating work and provides quality control feedback to the design team on constructability from the contractor’s perspective.</p> <p>Rick can lead and manage all estimating activities including quantities, costs, and risk management. Knowledgeable in analyzing and estimating large highway, transit, airport, port and marine projects as well as local roads and facilities. Rick has participated in many proposals for P3, design-build, design-bid build, and CM-GC at various levels of design. And has been the estimator on several Value-Engineering Workshops.</p> <p>Areas of Expertise</p> <ul style="list-style-type: none"> <li>• HCSS Heavy Bid</li> <li>• Bottom-Up Contractor Cost Estimates</li> <li>• Parametric Estimates</li> </ul> <p>Relevant Project Experience:</p> <p><b>Structures Estimator, I-90/SR 18 Interchange, Washington DOT, Snoqualmie WA, 4Q2019.</b></p> <p>Improves to the I-90 &amp; SR 18 interchange and SR 18 widening. Key features include a Diverging Diamond Interchange, 1.5 miles of SR 18 widening, 3 bridge structures (Raging River, Deep Creek, and Lake Creek), fish passage improvements, wetland and stream mitigation, and other improvements along the corridor. \$175M</p>		

**Lead Estimator, Palisades Trolley Trail Pedestrian Bridges, District of Columbia Department of Transportation, 4Q2019.** Develop Class 5 conceptual cost estimates for the former Georgetown/Glen Echo Trolley alignment between Georgetown University and Arizona Ave. NE to convert to a pedestrian pathway. Estimate includes 3 pedestrian bridges and rehabilitation of the Foundry Bridge Trestle. \$8.2M.

**Structures Estimator, Metro Gold Line Foothill Extension Phase 2B, Foothill Gold Line Construction Authority, Southern California, 4Q2018.**

Develop independent cost estimate for both Light Rail Transit and Freight Rail bridges along 12.3-mile alignment from Glendora to Montclair, CA. \$687M.

**Structures Estimator, Lynnwood Link Extension, L200/L300, Sound Transit, Seattle, 3Q2018.**

Develop independent cost estimate for 9 miles of elevated guideway and stations for the extension north to Lynnwood, WA for the CM-GC contract. \$836M.

**Structure Items Estimator for ICE for CM-GC, 6th Street Viaduct Replacement; City of Los Angeles, CA, 2012 to 2015.** Concept level design cost estimate for iconic Viaduct Replacement over the Los Angeles River, railroads, and light rail transit. \$240M.

**Structures Estimator, Project NEON, Las Vegas, Nevada, Nevada Department of Transportation, 2013-2014.**

Structures estimator to improve I-15 between Sahara Avenue and the Spaghetti Bowl and provide a direct connector from I-15 to US 95. Estimated highway bridges and miscellaneous structures for this Design-Build procurement. \$540M.

**Structures Estimator I-30 Margaret McDermott Bridge (Santiago Calatrava Pedestrian Bridges), Dallas, TX**

**1Q2012.** Twin 1,125' Steel Girder, Steel Arch Signature span pedestrian bridges designed by Santiago Calatrava. Part of the larger \$800M Dallas Horseshoe Design-Build Project with partners Granite Construction and Traylor Pacific. \$112M.

**Structures Estimator, Kenilworth Pedestrian Bridges over Kenilworth Avenue, Washington, DC, District of Columbia Department of Transportation (DDOT) 3Q2012.** An ICE was performed at 5% design for three prefabricated pedestrian truss bridges with five options over highway and local roadways. \$37M.

Jacobs Engineering Group, Inc.			
	<b>Chad Skeels, PMP</b>	Years of relevant experience with this employer	<b>1</b>
Title	<b>Heavy Civil Estimator</b>	Years of relevant experience with other employer(s)	<b>14+</b>
Degree(s) / Years / Specialization		University of California - Davis / 2007 / City Planning & Urban Development	
Active registration number / state / expiration date		PMP #3263640 PMI	
Year registered	N/A	Discipline	Project Management Professional
Contract role(s) / brief description of responsibilities		<b>MPIR# 4 – Discipline Estimator – Mech/Elect/Plumbing Lead</b> Chad will lead our MEP specific discipline estimating efforts. He exceeds the minimum MPR 4 project requirements with over 14 years of bidding and estimating experience.	
2022 - 2023	<p><b>Jacobs– Heavy Civil/Utilities Estimator</b></p> <p>Chad is responsible for heavy civil and utility estimates. With his background, Chad possesses a practical knowledge of construction, engineering, estimating, planning, and procurement, along with a fundamental understanding of federal and state of California construction requirements. Additionally, his experience in various sectors such as heavy civil, industrial, utilities (wet/dry), and oil allow him to develop reliable and defensible construction costs, reflecting current market conditions.</p> <p>Relevant Project Experience:</p> <p><b>Lead Cost Estimator, Metro Pillar Projects (CM/GC, PDB, P3), Client: LA Metro, 2022-Present.</b> Chad serves as discipline lead for LA Metro’s Early Intervention Team (EIT) to re-baseline Metro’s “Pillar” capital improvement projects. From the West Santa Ana Branch, Green Line Extension, Sepulveda Corridor Extension and East Side Corridor Phase 2 to freeway widenings, toll lanes and grade separations, over \$130+ billion in total costs have been produced and incorporated into Metro’s Measure M Budgets through bottom-up estimating methodology at 15% / 30% / 60% design stages.</p> <p><b>Lead Cost Estimator, Maryland Parkway BRT (CMAR), Client: Regional Transportation Commission of Southern Nevada (RTC), 2022-Present.</b> Chad underground utility lead for the ICE team for this \$287 million, 13.3-mile Maryland Parkway corridor. The Project includes 23 stations, 14 vehicles, transit signal priority, and improved pedestrian and bicycle access and facilities. Specifically, Chad coordinated and developed quantity takeoffs and reconciliation with the contractor, as well as bottom-up estimating and cost reconciliation with the contractor for this project.</p> <p><b>Lead Cost Estimator, I-285 Top End Express Lanes (DBFM), Client: Georgia Department of Transportation, 2022-Present.</b> Chad served Utility Relocation Lead Cost Estimator 44-miles of elevated tollway with a capital cost of approximately \$8 billion. Key scope elements include earthwork, pavements, walls, bridge structures, signing, striping and toll stations. Chad interfaces his costs with schedule leads and risk management leads to ensure feasibility for the client.</p>		

<p>Previous Experience prior to Jacobs 2022-2010</p>	<p>Relevant Project Experience:</p> <p><b>Heavy Civil Estimator, Various Road, Earthwork, and Water Projects, Client: Kern County Public Works Department, Bakersfield, CA, 2016-2021</b>          Performed estimates for road, earthwork, and water projects. The scope of work for these projects included lane expansions, rehabilitation, new road development, shoulder reconstruction, installation of new water mains, valves, concrete tank pads, and various other water infrastructure. Additionally, Chad would assist inspectors with lean constructability efforts and provide mentoring services to new engineers.</p> <p><b>Heavy Civil Estimator, Various Roadway and Rehabilitation Projects, City of Bakersfield Public Works Department, Bakersfield, CA, 2016-2021</b>          Provide estimates for new roadway and rehabilitation projects. Estimates included road widening, asphalt pavement rehabilitation, new concrete curb &amp; gutter, sidewalk, sewer, storm drains, and earthwork. Additionally, Chad provided estimates for potable water pumping stations, lift stations, and water treatment facilities.</p> <p><b>Lead Cost Estimator, Various Industrial Projects, Chevron - California, 2014-2015</b>          Estimate industrial projects that include piping (aboveground and underground), mechanical/electrical equipment installations, electrical conduits (aboveground and underground), wiring, terminations, instrumentation, and testing.</p> <p><b>Cost Estimator/Field Engineer, Various Industrial Projects, Client: Aera Energy – California, 2008-2015</b>          Estimate industrial projects that include vast amounts of earthwork, concrete (equipment pedestals and facility foundations), mechanical piping (aboveground and underground), mechanical/electrical equipment installations, electrical conduits (aboveground and underground), wiring, terminations, instrumentation, and testing.</p>
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Jacobs Engineering Group, Inc.			
	<b>Dan Adams, PE</b>	Years of relevant experience with this employer	<b>1</b>
Title	<b>Project Management Professional – Senior</b>	Years of relevant experience with other employer(s)	<b>14+</b>
Degree(s) / Years / Specialization		Clemson / 2009 / Civil Engineering	
Active registration number / state / expiration date		PE#55628 / Virginia / 2024	
Year registered	2016	Discipline	Civil Engineering
Contract role(s) / brief description of responsibilities		<b>MPIR# 4 – Discipline Estimate – Geotechnical Engineer</b> Mr. Adams will lead our Geotechnical cost-estimating efforts. Mr. Adam's has over 14 years of estimating and bidding experience which significantly exceeds the MPR 4 minimum requirements.	
01/2023 – Present	<p><b>Jacobs – Senior Estimator</b></p> <p>Dan is a senior transportation cost estimator specializing in highway and bridge programs. Dan's proven track record of developing reliable costs and defensible costs for DOT's and municipalities around the country. He applies extensive knowledge in the construction industry to his estimating work, which includes 14 years of Heavy Construction Systems Software (HCSS) estimating. He has experience working for civil construction firms prior to joining Jacobs. Dan has led proposals for design-bid-build, design-build, at all stages of design.</p> <p>Areas of Expertise</p> <ul style="list-style-type: none"> <li>• Transit, Highway/Bridge and Utility Projects</li> <li>• Estimate at Completion (Cost Forecasts)</li> <li>• Strategy and Communication</li> <li>• Procurement Support</li> <li>• Capital Cost Estimates</li> </ul> <p><b>Relevant Project Experience:</b></p> <p><b>Lead Estimator, I-515 Downtown Access Project (DAP), Client: Nevada Department of Transportation (NDOT), 2023-Present.</b></p> <p>Dan is responsible for developing 10% conceptual design stage cost estimates for seven alternative design selections budget and feasibility. This \$1.5-2 billion freeway improvement project will improve mobility and alleviate congestion along Interstate 515 in Las Vegas, NV.</p> <p><b>Lead Highway Estimator, I-81 Corridor Improvements, Client: Virginia Department of Transportation (VDOT), 2023-Present.</b></p> <p>Dan is responsible for developing 10% conceptual design stage cost estimates for 325 miles of freeway widening for VDOT. Alternatives for this massive program range from \$10-18 billion.</p>		

	<p><b>Lead Cost Estimator, Foothill Gold Line Pomona to Montclair Extension, Client: Foothill Gold Line Construction Authority, California, 2023-Present.</b>  Dan is responsible for developing 60% design (advanced packaging) costs for comparison with contractor pricing for budget, feasibility and to support client negotiations with the JV firm currently building the guideway from LaVerne to Pomona in Southern California. The project includes FRT relocation, advanced utility relocations, relocation of the Metrolink track and existing station in order to clear a path for Metro’s 3.2-mile Gold Line Extension. Once constructed, this alignment will be absorbed into LA Metro’s infrastructure.</p> <p><b>Lead Cost Estimator, H-Street Bridge Replacement, Client: District Department of Transportation (DDOT), 2023-Present.</b>  Dan is responsible for developing 60% bottom-up production-based cost estimate for this complex road improvement project over railroad tracks at Union Station in Washington, D.C. This multi-phased project replaces the existing bridge and streetcar system in a highly congested area.</p>
Experience Prior to Jacobs	<p><b>Projects and Dates of Involvement Prior to Jacobs</b></p> <ul style="list-style-type: none"> <li>• Senior Estimator, Virginia Paving Co., 2019-2023</li> <li>• Cost Engineer, Atlantic Contracting &amp; Material Co., 2015-2018</li> <li>• Engineer, Virginia Paving Co., 2009-2015</li> </ul>

Jacobs Engineering Group, Inc.			
	<b>Jereme Eklund</b>		Years of relevant experience with this employer
			<b>19</b>
Title	<b>Estimating Professional</b>		Years of relevant experience with other employer(s)
			<b>0</b>
Degree(s) / Years / Specialization		Lake Superior College / 1994 / Electrical Construction (Associate)	
Active registration number / state / expiration date		N/A	
Year registered	N/A	Discipline	N/A
Contract role(s) / brief description of responsibilities		<b>MPIR# 4 – Discipline Estimate – ITS Traffic Estimating</b> Jereme will lead our ITS/Traffic cost estimating efforts. His 19 years of experience estimating and bidding electrical construction work significantly exceeds MPR 4 requirements.	
1994 – Present	<p><b>Jacobs – Estimating Professional</b></p> <p>Jereme is a senior estimator specializing in cost estimating for transportation projects involving transit, airports, ports, roadways, and bridges. Jereme brings experience working in the at-risk heavy–highway civil construction industry with two national, as well as two regional, heavy civil construction firms to his estimating work and provides quality control feedback to the design team on constructability from the contractor’s perspective.</p> <p><b>Relevant Past Project Experience:</b></p> <p><b>CPPRS, Jacobs Engineering Group, January 2018 – Present.</b></p> <p>Estimating Transportation projects:</p> <ul style="list-style-type: none"> <li>• LA Metro BRT, Los Angeles &amp; Glendale, CA – multiple projects of lighting, rail signals, traffic control, and ITS</li> <li>• Caltrain, San Francisco, CA – rail grade separation project, traffic control, rail signals, lighting, ITS</li> <li>• Sound Transit BRT, Seattle, WA – multiple projects of lighting, traffic control, and ITS</li> <li>• Metrolinx Transit, Toronto, ON – multiple projects of lighting, rail signals, traffic control, and ITS</li> <li>• HCTR Ship Channel Bridge Project, Houston, TX – utilities, lighting</li> <li>• GDOT I-285 Top End Express Lanes Project, Atlanta, GA – lighting, traffic control, tolling facilities, and ITS</li> <li>• MARTA BRT Project, Atlanta, GA – lighting and ITS</li> <li>• Honolulu Authority for Rapid Transit – multiple projects of elevated rail and high-voltage undergrounding</li> <li>• Seattle Central Waterfront Project (Ph 1B, 2A) 21 intersections of traffic control and ITS</li> <li>• Maryland Pkwy RTC Las Vegas BRT Project – 47 intersections, ITS, lighting, and utilities</li> <li>• City of Seattle - Railroad Way - lighting retrofit project</li> <li>• WMATA, Washington DC – rail repair facility, electrical</li> <li>• Qiddiya Resort Utilities Project, Riyadh, Audi Arabia – electrical utilities, lighting, traffic control, and ITS</li> <li>• AC Transit BRT, Oakland, CA (electrical change order estimating)</li> <li>• TriMet, Portland, OR – elevated walkway</li> </ul>		

- ODOT – E. Portland I-205 Corridor Widening
- WSDOT I-90 & SR-18 Interchange
- WYDOT SR 2580 – highway expansion lighting
- CCPRS (2018 – 2020) estimated 359 small transportation projects for FEMA disasters in multiple states

**Lead Electrical Estimator; Project Estimating Lead, Timberline Database Administrator, Various Projects, Alaska Inc., Shared Resource Organization, Alaska, May 2011 – January 2018.**

Software: Timberline Estimating; Excel; P6; Project Wise

- Estimating Oil & Gas related projects in Alaska, Canada, and North Dakota
- BP Exploration Alaska – Prudhoe Bay, Alaska
- Conoco Philips Inc. Alaska – Alpine and Kuparuk, Alaska
- Exxon Mobil Alaska – Point Thompson, Alaska
- HHI Offshore Division, Ulsan, S. Korea (February – June 2015)

**Estimator, Superintendent, Foreman, Various Projects, Norcon Inc., December 2009 – May 2011.**

- Fort Greely Power Plant, Delta Junction, AK – field engineering, quantity survey, field procurement,
- Electrical Superintendent) August 2010 – March 2011
- Foreman – multiple street lighting and traffic signal projects, Anchorage, AK

Other Relevant Electrical Experience:

ELECTRICAL (1994-present)

- Alaska Certificate of Fitness Journeyman
- North Slope Training Certification
- Minnesota Class A Journeyman Electrical
- Minnesota Class A Electrical Contractor
- Mississippi ICC Master Electrical License – Gulfport; Ocean Springs; Bay St Louis

Jacobs Engineering Group, Inc.			
	<b>Michael Boraks, PE</b>	Years of relevant experience with this employer	<b>5</b>
Title	<b>Senior Project/Program Leader Risk Manager</b>	Years of relevant experience with other employer(s)	<b>25</b>
Degree(s) / Years / Specialization		Villanova / 1984 / Civil Engineering	
Active registration number / state / expiration date		PE#048834 / California / 9-30-2024	
Year registered	1992	Discipline	Civil
Contract role(s) / brief description of responsibilities		<b>MPIR# 4 – Discipline Estimate – Risk Evaluations</b> Mike will provide risk evaluation and management strategies that are part of the ICE value engineering/cost mitigation activities. He has 5 years of risk management experience with Jacobs and over 25 years of experience with other firms. This experience significantly exceeds the minimum requirements for MPR 4.	
2018 – Present	<b>Jacobs Engineering – Principal for Estimating Department / Senior Project Program Manager</b>  Mike is a Senior Project/Program Manager and Leader for Jacobs in Southern California. He is a MOP/DPE for transportation projects in SoCal. Mike has 35 years of experience in the design and management of multi-disciplinary public works projects with an emphasis on transportation projects and specific expertise in the design and delivery of rail and transit projects. He also has both broad and in-depth understanding and experience in program delivery including planning, environmental clearance, design, packaging and contracting, project controls, right-of-way, interagency agreements, and risk management, all aspects critical to a program’s success. Mike is a former Marine Officer separated from the USMC as a Captain before embarking on his career as a civil engineer.  <b>Relevant Past Project Experience:</b>  <b>Risk Manager, City of Wenatchee, Confluence Parkway Project (Progressive Design Build), 2023-Present.</b> The Confluence Parkway Project is a major infrastructure improvement for the City of Wenatchee, WA. The Project will create a new 2.5-mile alternative north/south route between Miller Street and State Route (SR) 285/North Wenatchee Avenue, connecting by a bridge over the Wenatchee River. Mike planned and facilitated a 2-day risk workshop, in a hybrid format with 18 participants and then led the follow-on cost and schedule detailed risk analysis effort in close coordination with the Jacobs PM and Team. Mike presented the results and has stayed on as a risk and contract delivery subject matter expert for the Team, performing QC and advisory services to the PM and others. \$134M (pre-solicitation value).  <b>Risk Manager, I-285 Top End Express Lane Project, Georgia Department of Transportation (GDOT), Atlanta GA, 2020-Present.</b> Jacobs is the General Engineering Consultant (GEC) for the development of an exceptionally large alternative delivery (DBFOM with revenue risk) project for the construction of express lanes along the northern half of the I-285 beltway in Atlanta. The project is broken into three delivery phases, the East Phases 1 and 2 and the West Phase1 and proposes to add two new mostly elevated, express lanes in both directions of I-285 between Paces Ferry Road clockwise to the east to		

Henderson Road with major interchange connections to I-75, SR400, and I-75. Mike is representing the GEC team and has worked with all disciplines to identify potential risks to the project that could affect the cost or schedule for delivery. He also works closely with the MMIP Program Management Consultant to develop risk input values from the risk register for use in a project specific cost-risk model (Monte Carlo simulation) to create a Risk Based Contingency for the overall project cost estimate.

Estimate cost of construction: \$8B.

**Program Management Assistance, Peninsula Corridor Joint Powers Board (Caltrain), San Carlos, CA, January-May 2022.**

As a task within the broader program management assistance contract, Jacobs Estimators were asked to review the Agency's current estimating practices from early concept through design and construction and offer ideas and best practices for improving upon the current approach by Caltrain and their staff. Mike led a review of risk-based contingency development, formal and informal, and how that effort was incorporated into the Agency's current practices. The 3-person team developed a memorandum of findings, recommendations and best practices and made a 1-hour training presentation to the leadership and capital delivery team of the information shared in the memo using a PowerPoint presentation.

\* Additional project experience with risk management available upon request.

Jacobs Engineering Group, Inc.			
	<b>Nurez Damani, P.Eng</b>		Years of relevant experience with this employer
			<b>20</b>
Title	<b>Estimating Professional</b>		Years of relevant experience with other employer(s)
			<b>0</b>
Degree(s) / Years / Specialization		MBA Finance / 2013 / University of BC; King's College (UK) / 2003 / Engineering	
Active registration number / state / expiration date		P.Eng (British Columbia & Alberta) Canada	
Year registered	N/A	Discipline	Civil Engineering
Contract role(s) / brief description of responsibilities		<b>MPR# 4 – Discipline Estimate –Financial Services.</b> Nurez will assist our team as an expert in financial services for alternative delivery construction programs. He is a licensed professional engineer in Canada and his experience significantly exceeds the minimum requirements for MPR 4.	
2003 – Present	<p><b>Director – Financial/Commercial Risk &amp; Delivery</b> Nurez is experienced in risk modeling, market analysis, project finance, and commercial analysis for major projects. He is currently advising clients for major transportation projects across the U.S. and Canada. His focus includes integrated commercial, financial, and technical aspects as it relates to project risk.</p> <p>Areas of Expertise</p> <ul style="list-style-type: none"> <li>• <b>Project Finance and Funding:</b> Understanding of project finance involving infrastructure financial markets including debt and equity financing, financial models, financing agreements, risk analysis and risk modeling, and project financing structure and package.</li> <li>• <b>Risk Models/Analysis:</b> Advance understanding of risk models for various commercial structures including probabilistic or Monte Carlo analysis for project options, cost analysis, decision making, scoping, and financing to maximize value.</li> <li>• <b>Government Procurement:</b> Advance understanding of government procurement, including responding to and development of procurement process to launch and close transaction.</li> </ul> <p><b>Relevant Project Experience:</b></p> <p><b>Risk Analysis Lead, New York City DOT Harlem River Drive Ramp Project, NY, 2023-Present.</b> Leading quantitative risk analysis to support decision-making and reduce uncertainty for the Harlem River Drive Ramp project. Performing formula-based analysis to calculate risk impact using minimum, most likely, and maximum cost, and schedule impacts. This approach will produce a deterministic sample set of likely cost and schedule outcomes for NYCDOT's use. The sample sets are then used to develop distributions and ranges for aggregate cost and schedule impacts. Also leading Red Amer Green ("RAG") Risk Analysis.</p> <p><b>P3 Risk Advisor, I-285 Highway, Georgia Department of Transportation, GA, 2022-Present.</b> Jacobs is engaged to provide procurement advisory support to GDOT for the procurement of the I-285 project. Responsible for leading project risk, input into risk matrix, and market analysis support. Ongoing confidential assignment.</p>		

**P3 Risk Advisor, LA Metro Light Rail P3 Transaction – West Santa Anna Branch Project, Los Angeles, CA; 2019-Present.**

Advising LA Metro for \$2 billion Light Rail P3 Transaction. Nurez is working with a core team to successfully launch the project into procurement. Involved development of project Payment Mechanism (between LA Metro and Concessionaire). Performed financial analysis to determine O&M penalties based on performance KPIs. Walked client through P3 procurement process. Conducted Monte Carlo Risk Analysis (probabilistic modeling) using @Risk. Ensure procurement documents comply with LA Metro internal requirements. Developed Risk Register, performed analysis of precedent transactions, and performed due diligence.

**Financial and Economic Risk Lead, Burnside Bridge Project, Portland, OR; October 2021-January 2022.**

Jacobs was engaged by Multnomah County to provide an independent economic (inflation) and cost review for the construction of the new seismically resilient Burnside Street. The scope included an analysis of current inflationary trends and risk analysis (Federal Interest Rate Policy Changes, Macro and Local Price Escalation, and Risk Analysis) for services and materials, government funding programs, demographic, and employment statistics, as well as supply chain concerns at a national and regional level. Our team modeled financial and economic forecasts for KPIs taking into consideration expected inflationary trends and government actions. Led the analysis.

**Miami Light Rail Transit (LRT) Project, Resorts World Miami, FL; 2017-Present.**

Nurez's role includes:

- Identifying funding options for the project including sources of funds, type of funding, procurement options analysis, commercial structure, and how client may participate with municipality.
- Considering P3, pure-private (similar to Las Vegas Monorail), and pure-public funding and financing options.
- Leading the development of a funding and financing implementation strategy to successfully enable client to negotiate with authorities and get the project “off the ground.”
- Managing the analysis for the development of financial model, including Federal, State, Local, Private, and Revenue Bond funding.
- Working alongside engineering and project management team.
- Providing risk modeling and sensitivity analyses for assorted options.

\* Additional project experience with risk management available upon request.

Legis Consultancy, Inc.			
	<b>Mike Ray,</b> PE, CCP, PSP, PMP, F. ASCE, FAACEI		Years of relevant experience with this employer <b>22</b>
Title	<b>Project Management Professional – Senior</b>		Years of relevant experience with other employer(s) <b>50+</b>
Degree(s) / Years / Specialization		University of Detroit / 1963 / Civil Engineering	
Active registration number / state / expiration date		PE#18137 / Georgia / 2025	
Year registered	1989	Discipline	Civil Engineering
Contract role(s) / brief description of responsibilities		<b>MPR# 4 - Lead ITR/QC Reviewer</b> Mike will be the POC and lead for Legis Consultancy (ITR/QC Review Team).	
09/2001 - Present	<p><b>Legis Consultancy, Inc. – Principal/CEO</b> Mike has a wide range of construction and environmental knowledge gained in more than 50 years' industry experience. Since establishing his construction consulting practice, he has provided his clients with advice and direction covering a wide variety of issues. These include: construction management; interpretation of plans &amp; specifications; cost estimating; scheduling; contract negotiation; project management; construction claims management services; and project controls. During this period, he obtained his professional engineering, cost engineering, planning &amp; scheduling, and project management credentials. Mike's expertise in complex construction projects is based on the impacts of management, cost, schedule, and economic risk. This has included advising clients on the likely cost and duration of new projects, problem-solving for complex projects with multiple owners, competing constraints, and complex construction challenges, and assisting the client's legal counsel during mediation and litigation. Additionally, he has published, taught, and lectured widely on construction and environmental issues for over 40 years. Mike is a licensed Professional Engineer (PE) and is a Certified Cost Professional (CCP), a Planning and Scheduling Professional (PSP), and a Project Management Professional PMP). Additionally, he is recognized as a fellow by the Association for the Advancement of Cost Engineering, International (AACEI) and the American Society of Civil Engineers (ASCE).</p> <ul style="list-style-type: none"> <li>• Transform I-285 / SR-400 (under GDOT Major Mobility Investment Program) Construction Value \$700+M: Legis provided estimating, scheduling, and claims support services.</li> <li>• I-16 / I-95 (under GDOT Major Mobility Investment Program) Widening and new Bridges, Construction Value \$260M: Legis provided estimating services.</li> <li>• I-20 / I-285 East Side Interchange (under GDOT Major Mobility Investment Program) Widening and new Bridges, Construction Value \$175M: Legis provided estimating, and scheduling services.</li> <li>• I-20 / I-285 West Side Interchange (under GDOT Major Mobility Investment Program) Widening and new Bridge, Construction Value \$160M: Legis provided estimating, and scheduling services.</li> <li>• SR-400 Widening and new Bridge, Construction Value \$160M: Legis provided estimating, and scheduling services.</li> </ul>		

	<ul style="list-style-type: none"> <li>• I-85 Widening and Express Lanes, Construction Value \$210M: Legis provided peer review of project estimates and schedules.</li> <li>• GDOT Valdosta New Bridges Project, Construction Value \$52M: Legis provided estimating, and scheduling services.</li> <li>• GDOT Evans County Retaining Walls, Construction Value \$36M: Legis provided estimating, and scheduling services.</li> <li>• US Department of Transportation, General Hitchcock Highway Resurface, Construction Value \$47M: Legis provided estimating services.</li> </ul>
1/1987 - 08/2001	<p><b>Project Time &amp; Cost, LLC - Executive Vice President</b></p> <p>Mike was an executive vice president for the Atlanta based cost engineering (estimating, scheduling, risk analysis, value engineering), construction management and claims support. He led Project Time and Cost teams that worked on civil works, vertical, horizontal, MILCON, and HTRW projects for numerous federal agencies and private sector clients.</p> <ul style="list-style-type: none"> <li>• FDOT Leon County Road Expansion Project, Construction Value \$51M: PT&amp;C provided estimating services.</li> <li>• GDOT / Cobb County DOT, Johnson's Ferry Widening Project, Construction Value \$28M: PT&amp;C provided estimating services.</li> </ul>

Legis Consultancy, Inc			
		<b>Dr. Mohamad El-Gafy,</b> PE, PhD	Years of relevant experience with this employer <b>6</b>
Title		<b>Project Supervisor - Engineer</b>	Years of relevant experience with other employer(s) <b>25+</b>
Degree(s) / Years / Specialization		Cairo / 1999 / BS Civil Engineering; Cairo / 2002 / MS Civil Engineering; Florida State / 2005 / PhD	
Active registration number / state / expiration date		PE#6201062235 / Michigan / 2025	
Year registered	2007	Discipline	Civil Engineering
Contract role(s) / brief description of responsibilities		<b>MPR# 4 - ITR/QC Reviewer</b> Mohamad will be technical lead for cost and constructability reviews for Legis Consultancy (ITR/QC Reviews)	
2017-Present	<p><b>Legis Consultancy, Inc. - Principal Cost Engineer</b> Mohamad has been the Principal Cost Engineer (quantity take off, estimating) for highway/transportation work, as well as multi-phase projects for marine construction and water resources, healthcare complexes, and civil works projects. In addition to cost engineering, he provides CPM scheduling, cost risk analysis, schedule risk analysis, and Integrated cost-schedule risk analysis when called for by project scope. Additionally, Mohamad has been tasked to facilitate project risk workshops and formulate risk mitigation strategies. He is an expert in MCACES MII and other estimating software for cost engineering work and Primavera P6 for Scheduling. He has earned a Doctor of Philosophy (PhD) in civil engineering and is a Licensed Professional Engineer (PE).</p> <ul style="list-style-type: none"> <li>• Transform I-285 / SR-400 (under GDOT Major Mobility Investment Program) Construction Value \$700M+: Legis provided estimating, scheduling, and claims support services.</li> <li>• I-16 / I-95 (under GDOT Major Mobility Investment Program) Widening and new Bridges, Construction Value \$260M: Legis provided estimating services.</li> <li>• I-20 / I-285 West Side Interchange (under GDOT Major Mobility Investment Program) Widening and new Bridge, Construction Value \$160M: Legis provided estimating, and scheduling services.</li> <li>• Mid-Breton Sediment Diversion Project, Construction Value \$700M: Legis is providing Independent Cost Estimating (ICE) services.</li> </ul>		
2016 – Present	<p><b>Gafy and Company, LLC – Manager/Owner</b> Mohamad has over 15 years’ experience working with federal, state, and private industry providing Cost Engineering, CPM Scheduling, and Construction Management expertise to fulfill complex project requirements. Additionally, he applies years of academic and professional preparation to interpretation of plans and specifications, project management, and project controls. Industry experience includes civil works, marine construction and water resources,</p>		

MILCON, HTRW, Information Technology, healthcare, utilities, infrastructure, and environmental projects on projects / programs ranging in size from \$11,000 to \$260,000,000.

- MDOT Van Buren County M-149 / I-196BL Upgrades, Construction Value \$7+M: Provided estimating services.
- MDOT Wayne County I-275 and South Huron Road and Sibley Road Upgrades, Construction Value \$3M+: estimating services.
- MDOT Livingston County M-59 Upgrades, Construction Value \$3M+: estimating services.

Jacobs Engineering Group, Inc.			
	<b>Agustin Villafana, PE, PMP</b>	Years of relevant experience with this employer	<b>10</b>
Title	<b>Project Controls / Scheduler</b>	Years of relevant experience with other employer(s)	<b>17</b>
Degree(s) / Years / Specialization		UT at Arlington / BS 2007 / MS 2011 / Civil Engineering	
Active registration number / state / expiration date		PE# 145332 / Texas / 2024 & PMP, Project Management Institute	
Year registered	2022	Discipline	Civil
Contract role(s) / brief description of responsibilities		<b>MPIR# 5 – Scheduler</b> Augustin will provide schedule development and analysis for the ICE team. He exceeds the MPR 5 minimum requirements with over 15+ years of relevant transportation related project scheduling and planning experience.	
2013 – Present	<p><b>Jacobs Engineering – Project Controls - Scheduler</b> Construction scheduling professional with 16 years of engineering and construction experience. Experienced in construction cost estimating, scheduling, and project management. Experience includes providing project controls and scheduling services on projects. Disciplines include wastewater treatment, bridges, roads and highways, healthcare, commercial, airport, military/defense, rail, and education.</p> <p><b>Relevant Project Experience:</b></p> <p><b>Scheduler, Arkansas State Highway and Transportation Department, Hwy 70 – Sevier Street Widening, Saline County, AR, 2019-Present.</b> Augustin’s responsibilities: Contractor technical schedule review/oversight, delay/claims analysis. Widening 5.402 miles of I-30 to six lanes, reconstruct three interchanges, and replace five bridge structures. \$187.3M.</p> <p><b>Scheduler, US 175, SH 310 &amp; IH 45, Client: TxDot, Dallas, TX, 2020-Present.</b> Augustin’s responsibilities: Contractor technical schedule review/oversight, time impact analysis, delay/claims analysis. Construction of freeway to 6 Lane divided arterial and reconstruction of I-45 and SM Wright interchange. Project consisted of paving, grading, drainage, structures, signals, signing and pavement markings, sidewalk, utility, landscape, and aesthetics. \$78.6M.</p> <p><b>Scheduler, North Tarrant Express Project Segments 3B and 3C Facility, Client: TxDot, Fort Worth, TX, 2019-2022.</b> Augustin’s responsibilities: Contractor technical schedule review/oversight, time impact analysis, delay/claims analysis. P3 (DBFOM) the IH 35W corridor from a point just north of the North Tarrant Parkway to and including the IH 35W/IH 820 interchange and then south of this interchange along the IH 35W corridor to Luella Street in the City of Fort Worth, Texas. \$1,049.8M.</p> <p><b>Scheduler, DFW Connector, Client: TxDot, Dallas/Fort Worth, TX, 2018-2022.</b></p>		

Augustin's responsibilities: Contractor baseline review and approval, contractor technical schedule review/oversight, time impact analysis, delay/claims analysis. Eight-mile project including rebuilding portions of four highways, two interchanges and five bridges; new direct-connect ramps from northbound SH121 to westbound SH114, and from eastbound SH114 to southbound SH121; continuous frontage road lanes along both eastbound and westbound SH114 between William D. Tate and Northwest Highway. Construction of the IH 635/SH 121 and SH 121/ FM 2499 interchanges to improve connectivity and increase capacity. \$1,500M.

**Scheduler, Arkansas State Highway and Transportation Department, Vandenberg Blvd – HWY 5 Widening, Pulaski & Lonoke Counties, AR, 2017-2019.**

Augustin's responsibilities: Contractor technical schedule review/oversight, delay/claims analysis. Widening of the main lanes of Highway 67 from Vandenberg Blvd to the Highway 5 interchange, including a new bridge crossing over Jack's Bayou. Project scope consists of earthwork, drainage structures, erosion control, maintenance of traffic, base and surfacing, bridge structures, permanent signing, and miscellaneous items. \$79.3M.

Jacobs Engineering Group, Inc.			
	<b>David Fortner, PE</b>	Years of relevant experience with this employer	<b>13</b>
Title	<b>Senior Project Controls Professional</b>	Years of relevant experience with other employer(s)	<b>0</b>
Degree(s) / Years / Specialization		Georgia Institute of Technology / 2003 / BS International Affairs Minor Spanish	
Active registration number / state / expiration date		N/A	
Year registered	N/A	Discipline	Certified Primavera P6 Contract Manager
Contract role(s) / brief description of responsibilities		<b>MPIR# 5 – Scheduler</b> David is a subject master expert in P6 scheduling and program management. His 13 years of experience and P6 certifications exceed the minimum requirements for MPR 5.	
2003 – Present	<p><b>Jacobs Engineering Group, Inc. – Senior Project Controls Professional</b> Senior Project Controls Professional with broad project experience ranging from infrastructure mega-projects to municipal program management and transportation design. A Subject Matter Expert in Primavera P6 who ensures project success by pairing strong technical and analytical skills with communication and leadership.</p> <p><b>Senior Schedule Lead, Port of Alaska Modernization Program (PAMP), Anchorage, AK, September 2022 – Present.</b> Maintain PAMP Master Control Schedule and produce bi-weekly updates. Review and approve contractor baseline and update schedules. Coordinate and resolve issues with contractor teams. Provide broad support to the project controls group and program delivery team, including variance analysis, earned value, report creation, cost control, and change management.</p> <p><b>Project Controls Manager, I-285 Top End Express Lanes, Anchorage, AK, May 2019 – Present.</b> Ensure completion of project objectives by managing a team of the project controls staff and supporting Project Manager and Deputy Project Manager. Responsibilities include client cost control and reporting, data management, Earned Value Management (EVM), subcontracts, subconsultant communication, invoicing, and enterprise financial reporting. Maintain project schedule (Primavera P6) and provide monthly schedule updates. Lead Georgia DOT task order proposal creation, resource analysis and kickoff.</p> <p><b>Project Scheduler, I-285 Top End Express Lanes, Anchorage, AK, June 2018 – May 2019.</b> Produce project baseline schedule. Perform monthly schedule updates; create monthly schedule submittal documents; create schedule reports. Create look-ahead schedules for client, project management team, FHWA and other stakeholders. Design and implement Earned Value Management (EVM) system for cost reporting.</p>		
04/1998 – 05/2023	<p><b>Project Controls Lead, City of Fresno CIP Program, Fresno, CA, August 2014 – September 2018.</b> Maintain and update all P6 project schedules for the City of Fresno CIP Program. Provide EVM data and analysis to Project Managers and Program Management team. Analyze contractor baseline and update schedules for the Construction Management team. Update and administer the PMIS. Support Project Managers and Program staff through ad hoc reporting and data analysis. Assist Program staff with matters regarding scheduling and schedule maintenance (P6/MS Project/Excel).</p>		

**Project Controls P6 Super User, State and Local Governments, Fresno, CA, January 2017 – December 2018.**

Assist in the administration of Primavera P6 databases for the State and Local Governments (SLG) sector including user access, WBS/OBS creation and maintenance, resource maintenance, and project import/export. Screen internal/external employment candidates for database access and P6 experience level. Assist in the deployment of the LoadSpring database management platform. Provide end-user support/troubleshooting in Primavera P6 and MS Project.

**Project Controls Specialist, Panama Canal Expansion Program, Panama City, Panama, May 2010 – July 2014.**

Update Weekly and Monthly Program Schedules in Primavera P6. Update to the 3 Week Lookahead Schedule (weekly). Create and maintain As-Built database for concrete activities. Prepare and present Pacific Locks project performance and status at weekly progress meeting. Lead weekly planning meetings between the Owner and the Planning Office and prepare meeting minutes. Lead weekly field visits with the Owner to review progress and address concerns. Maintain database of daily commodity price indices for Cost Control department.

Legis Consultancy, Inc.			
	<b>Michael French,</b> PE, CCP, PSP, CEP	Years of relevant experience with this employer	<b>4</b>
Title	<b>Principal Planner</b>	Years of relevant experience with other employer(s)	<b>32</b>
Degree(s) / Years / Specialization		Ohio State / 1991 / BS Civil Engineering; Ohio State / 1995 / MS Civil Engineering	
Active registration number / state / expiration date		PE#103215 / Texas / 2024	
Year registered	2009	Discipline	Civil Engineering
Contract role(s) / brief description of responsibilities		<b>Planner</b> Michael will be technical lead for cost and constructability reviews for Legis Consultancy (ITR/QC Reviews).	
04/2019 – Present	<p><b>Legis Consultancy, Inc. – Lead Cost Engineer/Scheduler</b></p> <p>Michael has worked in the construction and consulting industries for over 30 years. His experience includes construction management; interpretation of plans &amp; specifications; cost estimating; scheduling; contract negotiation; project management; construction claims management services; and project controls. Michael expertise in complex construction projects is based on the impacts of management, cost, schedule, and economic risk. This has included advising clients on the likely cost and duration of new projects, problem-solving for complex projects with multiple owners, competing constraints, and complex construction challenges, and assisting the client’s legal counsel during mediation and litigation. Michael is an active member of the Association for the Advancement of Cost Engineering, International (AACEI) and regularly attends professional development seminars to stay current with best practices. Michael has taught engineering classes at his alma mater the Ohio State University. Michael is a licensed Professional Engineer (PE), a Certified Cost Professional (CCP), a Certified Estimating Professional (CEP), and a Planning and Scheduling Professional (PSP).</p> <ul style="list-style-type: none"> <li>• Transform I-285 / SR-400 (under GDOT Major Mobility Investment Program) Construction Value \$700M: Legis provided estimating, scheduling, and claims support services.</li> <li>• I-16 / 1-95 (under GDOT Major Mobility Investment Program) Widening and new Bridges, Construction Value \$260M: Legis provided estimating services.</li> <li>• Mid-Breton Sediment Diversion Project, Construction Value \$700M: Legis is providing Independent Cost Estimating (ICE) services.</li> <li>• Louisiana International Terminal, New Construction, Construction Value \$950M, Legis is providing quantity take off and estimating services for the project design.</li> </ul>		
06/2019 - Present	<p><b>Construction Innovation Consultant, LLC – Principal/Owner</b></p> <p>Pursuing the following opportunities: construction claim preparation assistance, improving estimating and project controls capabilities, establishing, and analyzing historical performance data, preparing estimates, creating schedules, helping contractors transition from design build to bid build processes, and lecturing.</p>		

	<p><b>Projects included:</b> Roadwork, bridges, transportation, electrical renovation projects, a pump station and rising main project for the Pittsburgh Water &amp; Sewer Authority (PGH2O), a reservoir project for the San Diego County Water Authority (SDCWA), and a water related civil construction estimate for a litigation case.</p> <ul style="list-style-type: none"> <li>• TDOT SH 130 Seg 5 &amp; 6 New Construction, Construction Value \$1.3B: Provided quantity take off, estimating and scheduling services.</li> <li>• UDOT Design Build New Construction, Construction Value \$1.1B: Provided quantity take off, estimating and scheduling services.</li> <li>• NCDOT I-26 Mars Hill Highway New Construction, \$109M: Provided quantity take off, estimating and scheduling services.</li> </ul>
02/2012 – 06/2019	<p><b>A.H. Beck Foundation Drilling Co. – San Antonio, TX – Chief Estimator, Director of Analytics</b></p> <p>Managed estimating and analysis efforts for a leading foundation drilling company. Helped the company expand from \$28 million annually to over \$75 million. Pursued work in all construction sectors (Heavy/Highway, Oil and Gas, Petrochem, Building, Manufacturing, Substation, and Transmission Projects) throughout the United States and occasionally Internationally. Over 2000 projects estimated with sizes ranging from \$500 K to over \$100 million. Responsibilities also included: performing an in-depth analysis of past performances to enhance bidding, estimating, and operational efforts; bidding strategy and analysis; estimating optimization; project forecasting (cost and schedule); and Earned Value Analysis.</p>

## 17. Firm Experience

<b>J</b>	<b>Jacobs</b>	Past Performance Evaluation Discipline(s)*	Other Program Management of CMAR (includes the management of ICE services)	
Project name	<b>Mid-Basin Sediment Diversion Program</b>		Firm responsibility (prime or sub?)	Prime
Project number	LA-276, BA-153, BS-030	Owner's name	Coastal Protection and Restoration Authority	
Project location	Southeast Louisiana		Owner's Project Manager	Brad Barth, PE
Owner's address, phone, email	150 Terrace Ave, Baton Rouge, LA 70802; 225.342.4553; Bradley.barth@la.gov			
Services commenced by this firm (mm/yy)	08/16	Total consultant contract cost (\$1,000's)	\$19,000	
Services completed by this firm (mm/yy)	Ongoing	Cost of consultant services provided by this firm (\$1,000's)	\$18,041	

**Jacobs Key Team Members:** Sean Warren

**Legis Key Team Members (Breton ICE):** Mike Ray, Mohamed El-Gafy, Michael French

**Services Performed:** Program management, cost and schedule baseline development, management of the CMAR/ICE process and current team members developed the ICE estimates with other firms. Jacobs' roles included plan review/scope change, project risks, materials forecasting, construction phasing, quantity takeoffs, and hard dollar bids.

**Key Project Elements:** Pile supported structures, marine navigational structures, DOTD roadway/bridge, dredge management plan, levee floodwall, and floating plant requirements.

**Mid Barataria Sediment Diversion: This \$1.8B project can build and sustain an estimated 13,000 to 26,000 acres (about 20 to 40 square miles) of wetlands, depending on the rate of future sea level rise.** After 50 years of operation, under the higher sea level rise assumptions used in the environmental review process, about 20% of the wetlands remaining in Barataria Basin will only be there because of the Mid-Barataria Sediment Diversion. Re-establishing the natural processes and river flow into the Barataria Basin would create a more productive, dynamic, and sustainable estuary. By comparison, if natural processes are not re-established, the steady and dramatic decline currently underway will worsen. A sustainable estuarine system supports healthy marsh and habitat for a wide variety of seafood, fish, and other aquatic life that would be lost without the project. The Mid-Breton Sediment Diversion's maximum capacity will be 75,000 cubic feet per second (CFS). It will be designed to achieve this rate when the Mississippi River flow reaches 1,000,000 CFS.



**Mid Breton Project Description:** This \$900M project will reconnect the influence area with the river and divert sediment and fresh water, building new land and sustaining existing marsh. If built in coordination with other projects in the basin, such as the Lower Breton Sediment Diversion and the Bayou Terre aux Boeufs Ridge Restoration, the Mid-Breton Sediment Diversion could build land more quickly. Additional benefits of this project include storm surge buffering for Plaquemines Parish. The Mid-Breton Sediment Diversion's maximum capacity will be 50,000 CFS. It will be designed to achieve this rate when the Mississippi River flow reaches 1,000,000 CFS.

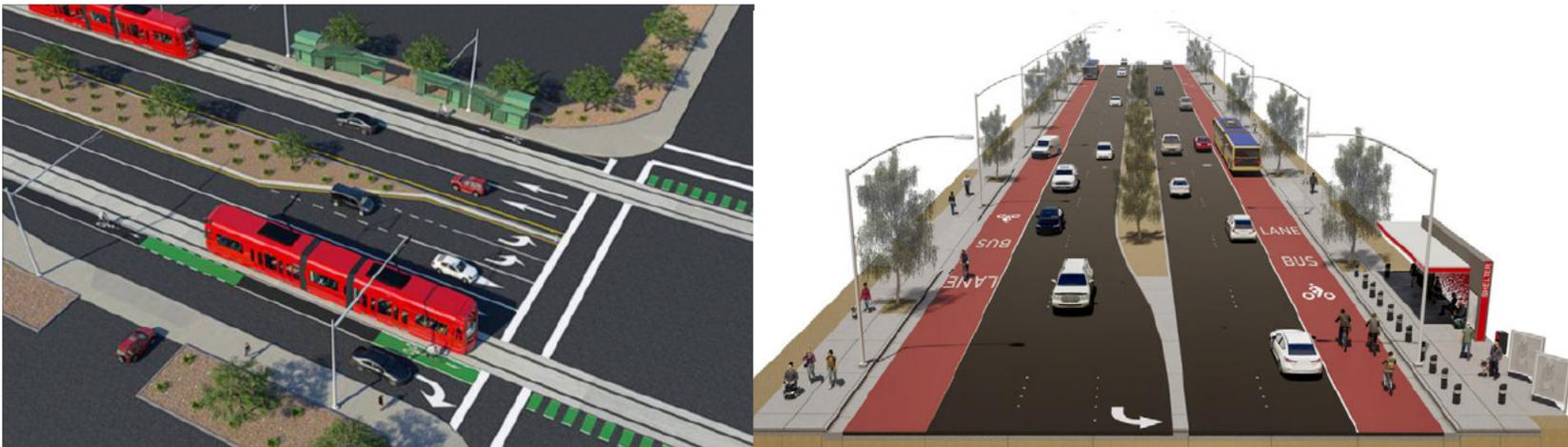
<b>J</b>	<b>Jacobs</b>	Past Performance Evaluation Discipline(s)*	Other (ICE Services)
Project name	<b>Maryland Parkway BRT Project CMAR (ICE)</b>		Firm responsibility (prime or sub?)
Project number	D3458628	Owner's name	Regional Transportation Commission of Southern Nevada
Project location	Las Vegas, NV	Owner's Project Manager	Brij Gulati
Owner's address, phone, email	600 S. Grand Central Parkway ST 350, Las Vegas, NV 89106 702-676-1500 GulatiB@rtcsonv.com		
Services commenced by this firm (mm/yy)	07/21	Total consultant contract cost (\$1,000's)	\$8,000
Services completed by this firm (mm/yy)	07/23	Cost of consultant services provided by this firm (\$1,000's)	\$5,400

**Jacobs Key Team Members:** Ben Kamph, Jereme Eklund, Chad Skeels

**Services Performed:** Program management, management of the CMAR/ICE process, construction sequencing, quantity takeoff development and reconciliation, cost estimate development and reconciliation, schedule development, and risk management.

**Key Project Elements:** The project includes 23 stations, 14 vehicles, 46 transit signal intersection modifications, improved pedestrian and bicycle access and facilities, underground utility relocation, and roadway reconstruction.

The Regional Transportation Commission of Southern Nevada (RTC) proposes to implement bus rapid transit (BRT) in the 13.3-mile Maryland Parkway corridor between the Las Vegas Medical District in the north, through the downtown Las Vegas area, and south along Maryland Parkway to Sunrise Hospital, Boulevard Mall, University of Nevada, Las Vegas' main campus, McCarran International Airport, and to the South Strip Transit Terminal. Approximately 7.3 miles will be dedicated transit lanes. The project's current estimated capital cost is \$287M. The project is intended to improve transit operations, travel time and ridership; alleviate traffic congestion; improve air quality; support local land use policies; increase multi-modal connectivity; and encourage new economic vitality near high activity centers.



<b>J</b>	<b>Jacobs</b>	Past Performance Evaluation Discipline(s)*	Other (ICE Services)	
Project name	<b>Wenatchee Confluence Parkway Progressive Design Build (ICE)</b>		Firm responsibility (prime or sub?)	Prime
Project number	W3Y14500	Owner's name	City of Wenatchee	
Project location	Wenatchee, WA		Owner's Project Manager	Jake Lewing
Owner's address, phone, email	301 Yakima Street, Wenatchee, WA 98807 509-888-6200; cpnepa@wenatcheewa.gov			
Services commenced by this firm (mm/yy)	12/22		Total consultant contract cost (\$1,000's)	\$7,500
Services completed by this firm (mm/yy)	Ongoing		Cost of consultant services provided by this firm (\$1,000's)	\$5,500

**Jacobs Key Team Members:** Ben Kamph, Rick Hults, Dicky Putz, Jereme Eklund

**Services Performed:** Owner's representatives, including program management, cost and schedule baseline development, management of the PDB/ICE process and development of the cost and schedule at key design milestones. Jacobs will also conduct value engineering assessments and pursue additional funding sources to complete future phases.

**Key Project Elements:** Underpass and river-crossing bridge structures, retaining walls, traffic signalization, pedestrian accommodations, BNSF railroad shoe-fly and relocation.

The proposed project will create a new north/south route connection for the City, providing congestion relief on SR 285, increasing local street access, connectivity, and capacity for all modes. The project will improve access and safety for bicyclists, pedestrians, and transit operations along the roadway and waterfront. It will also enhance safety by eliminating two at-grade crossings of the BNSF Railway. The project creates a third evacuation route through the City and will help support the North Wenatchee business district. The project is planned to be a new two-lane arterial street that begins at the existing intersection of North Miller Street and SR 285/North Wenatchee Avenue, extending north over the Wenatchee River on a new bridge connecting to U.S. 2/Euclid Avenue interchange. The project includes the extension of McKittrick Street between SR 285 to the new Confluence Parkway. The project is divided into two segments identified as Confluence Parkway South and Confluence Parkway North.



<b>J</b>	<b>Jacobs</b>	Past Performance Evaluation Discipline(s)*	Other (ICE Services)	
Project name	<b>I-285 Top End Express Lanes P3 (ICE)</b>		Firm responsibility (prime or sub?)	Prime
Project number	EEXJ2908	Owner's name	Georgia Department of Transportation (GDOT)	
Project location	Atlanta, GA		Owner's Project Manager	Xavier James
Owner's address, phone, email	One Georgia Center, 600 West Peachtree NW, Atlanta, GA, 404-631-1990, x.james@dot.ga.gov			
Services commenced by this firm (mm/yy)	05/2018		Total consultant contract cost (\$1,000's)	\$120,000
Services completed by this firm (mm/yy)	Ongoing		Cost of consultant services provided by this firm (\$1,000's)	\$90,000

**Jacobs Key Team Members:** Ben Kamph, Rick Hults, Dicky Putz, Jereme Eklund, Chad Skeels, Mina Abdelmessih

**Services Performed:** Program management, design development through 30%, capital cost and schedule baseline development, risk management, constructability reviews and project procurement and sequencing. Jacobs' estimating staff performed independent quantity takeoffs, bottom-up or production-based estimates at 10%, 20%, 25% and 30% design, as well integrated project risks, materials forecasting, construction phasing, and contract time determination (CTD).

**Key Project Elements:** 44 miles of elevated tollway construction (9,000,000 SF), 26 tolling stations, 1 million cubic yards of earthwork, cut/fill retaining walls, noise barrier walls, utility relocation, overhead sign support structures, marine navigational structures, pavement reconstruction, maintenance of traffic, and maintenance during construction.

The capital cost estimate is approximately \$8B in current 2023 dollars. The project scope includes a managed lane system along I-285 spanning from Paces Ferry Road to Henderson Road, comprised of barrier and non-barrier separated median lanes, and aerial structures. The plan is for two 12-foot lanes in both directions, with a 4-foot inside shoulder and a 10-foot outside shoulder. Access ramps provided will be elevated, braided, or slip ramp. The project includes elevated viaduct bridges, intermediate bridges, and short span bridge. Also included in this estimate is the section of SR-400 from the I-285 /SR-400 Interchange to MARTA's North Springs Transit Station. The project terminates approximately 500 feet south of Henderson Road on the east side.



<b>J</b>	<b>Jacobs</b>	Past Performance Evaluation Discipline(s)*	Other (ICE Services)	
Project name	<b>Lake Ralph Hall Progressive Design-Build (ICE)</b>		Firm responsibility (prime or sub?)	Prime
Project number	D3332801	Owner's name	Upper Trinity Regional Water District	
Project location	Ladonia, TX		Owner's Project Manager	Ed Motley
Owner's address, phone, email	900 N Kealy St, Lewisville, TX 75057, 972-219-1228, mail@utrwd.com			
Services commenced by this firm (mm/yy)	01/2020		Total consultant contract cost (\$1,000's)	\$978
Services completed by this firm (mm/yy)	Ongoing		Cost of consultant services provided by this firm (\$1,000's)	\$916

**Jacobs Key Team Members:** Ben Kamph, Rick Hults, Dicky Putz, Jereme Eklund

**Services Performed:** Program management, management of the PDB/ICE process, construction sequencing, quantity takeoff development and reconciliation, cost estimate development and reconciliation, schedule development, and risk management.

**Key Project Elements:** 394,000 cy of embankment fill, 8,500 vlf of CIDH piles, 5,000 cy of cast-in-place columns, 45,000 lf of precast girders, 10,800 cy of cast-in-place deck.

This mile-long bridge for the Upper Trinity Regional Water District was constructed over Lake Ralph Hall, a new reservoir that will provide approximately 35 million gallons of water per day to North Texas communities. Located in Ladonia, this \$94M project began in June 2021 and was completed in June 2023. Jacobs stepped through cost, schedule, and constructability with Flatiron for an on-time and on-budget execution of this PDB procurement.



	<b>Legis Consultancy, Inc.</b>		Past Performance Evaluation Discipline(s)*	Other (ICE Services)
			Project name	<b>GDOT Transform I-285 / SR 400</b>
Project number	0000784	Owner's name	Georgia Department of Transportation	
Project location	Atlanta, GA	Owner's Project Manager	Marlow Clowers, PE, DBIA, PMP	
Owner's address, phone, email	600 West Peachtree Street NW, Atlanta, GA 30308			
Services commenced by this firm (mm/yy)	01/2020	Total consultant contract cost (\$1,000's)	Time & Materials	
Services completed by this firm (mm/yy)	01/2021	Cost of consultant services provided by this firm (\$1,000's)	\$210,000	

**Legis Key Team Members:** Michael Ray, Mohamed El-Gafy, Michael French

**Services Performed:** Estimating and scheduling support during construction, Legis conducted quantity take-offs, pricing using DOT, commercial databases, or vendor quotes, created crews and productivities, and compiled an overall level 3 estimate. Construction scheduling utilized Primavera P6. Claims support included cost analysis, schedule delay analysis, and expert testimony.

**Key Project Elements:** Major interchange, flyover ramps, express lanes, collector distributor lanes, diverging diamond interchange, multi lane bridges, pile supported structures, sound walls, retaining walls, demolition, new paving, off/on ramps, traffic control structures, drainage structures, construction barriers.

**Transform I-285 / SR 400:** The project improves travel times and safety in the vicinity of the I-285/SR 400 interchange. This project is a priority for the metro Atlanta region and will be advanced through innovative project delivery efforts. The project will be constructed by Design Build Finance (DBF), Public Private Partnership (P3). The cost of the project is estimated at \$700+ million which includes the cost of preliminary design, environmental approval, right of way acquisition, final design, construction, utility relocations, construction engineering and inspection (CEI), and insurance. Project Location: The project is located in Atlanta, GA on the Top End of I-285, beginning west of Roswell Road in Fulton County and ending east of Ashford Dunwoody Road in DeKalb County, a length of approximately 4.3 miles. It also includes approximately 1.2 miles of improvements on SR 400 from the Glenridge Connector to Hammond Drive.

**Project details are as follows:** The project constructs new eastbound and westbound CD lanes along I-285, as well as northbound and southbound CD lanes along SR-400, new flyover bridges, reconstruction of existing ramps, and widening of existing bridges within the interchange. "Braided" ramps would be constructed in the vicinities of Ashford Dunwoody Road and Roswell Road to eliminate conflicts between traffic entering and exiting SR 400 and traffic entering and exiting the Roswell Road and Ashford Dunwoody interchanges, while preserving the recently completed projects at both of these interchanges. Along SR 400, Along SR 400, the project would construct northbound and southbound CD lanes from Glenridge Connector to Hammond Drive. This work would tie into the adjacent SR 400 CD lanes project.



	<b>Legis Consultancy, Inc.</b>		Past Performance Evaluation Discipline(s)*		Other (ICE Services)		
			Project name		GDOT I-16 / I-95 Interchange Improvements Project		Firm responsibility (prime or sub?)
Project number		0012757 & 0012758	Owner's name		Georgia Department of Transportation		
Project location		Atlanta, GA		Owner's Project Manager	Marlow Clowers, PE, DBIA, PMP		
Owner's address, phone, email		600 West Peachtree Street NW, Atlanta, GA 30308					
Services commenced by this firm (mm/yy)		08/2017	Total consultant contract cost (\$1,000's)			\$82,000	
Services completed by this firm (mm/yy)		04/2018	Cost of consultant services provided by this firm (\$1,000's)			\$81,900	

**Legis Key Team Members:** Michael Ray, Mohamed El-Gafy, Michael French

**Services Performed:** Estimating and scheduling of preliminary design. Legis conducted quantity take-offs, pricing using DOT, commercial databases, or vendor quotes, created crews and productivities, and compiled an overall level 3 estimate. Construction scheduling was completed using Microsoft Project.

**Key Project Elements:** Major interchange, loop ramps, collector distributor lanes, diverging diamond interchange, paving, lighting, Intelligent Transportation System, bridges.

**Transform I-285 / SR 400:** The \$260M 16/95 Improvement Projects will improve traffic flow and enhance safety along I-16 and I-95, one of Georgia's busiest freight corridors as well as the gateway to Georgia's growing port in Savannah, by reconstructing the interchange at I-16 and I-95 in Chatham County to increase operational efficiency and safety of passenger cars and trucks and widening I-16 to relieve traffic congestion. The completed project is expected to add highway capacity for more than 100,000 vehicles and reduce travel times by 5 percent. The improvements will reduce traffic congestion and improve safety in the area. Motorists will also see new lighting at the I-16/I-95 interchange, and Intelligent Transportation System (ITS) technology linked to Georgia Navigator along the corridor.



Jacobs Engineering began planning and design in 2016 and general contractor Savannah Mobility Contractors JV construction finished in late 2022.

**Project details are as follows:**

- Widening I-16 from two lanes to three lanes in each direction.
- Reconstructing six bridges, replacing four bridges, and constructing three new bridges.
- Replacing two existing loop ramps located on west side of I-95 with innovative turbine configuration ramps.
- Adding collector-distributor lanes on I-95 northbound to help eliminate "weaving" to and from I-16.
- Adding lighting at the I-16 / I-95 Interchange.
- Install Intelligent Transportation System

	<b>Legis Consultancy, Inc.</b>	Past Performance Evaluation Discipline(s)*	Other (ICE Services)
Project name	GDOT I- 285 / I-20 West Side Interchange	Firm responsibility (prime or sub?)	Sub
Project number	0013918	Owner's name	Georgia Department of Transportation
Project location	Atlanta, GA	Owner's Project Manager	Marlow Clowers, PE, DBIA, PMP
Owner's address, phone, email	600 West Peachtree Street NW, Atlanta, GA 30308		
Services commenced by this firm (mm/yy)	10/2017	Total consultant contract cost (\$1,000's)	\$70,000.00
Services completed by this firm (mm/yy)	12/2017	Cost of consultant services provided by this firm (\$1,000's)	\$69,274.00

**Legis Key Team Members:** Michael Ray

**Services Performed:** Estimating and scheduling of preliminary design. Legis conducted quantity take-offs, pricing using DOT, commercial databases, or vendor quotes, created crews and productivities, and compiled an overall level 3 estimate. Construction scheduling was completed using Microsoft Project.

**Key Project Elements:** Major interchange, express lanes, collector distributor lanes, multi lane bridges, pile supported structures, sound walls, retaining walls, demolition, new paving, off/on ramps, traffic control structures, railroad tracks, drainage structures, construction barriers.

**I-285 / I-20 West Side Interchange New Construction:** As part of Georgia Department of Transportation's Major Mobility Improvement Program (MMIP), the \$550+M Interstate (I) 285 and I-20 West Interchange project improves the interchange and addition of lanes along I-20. The project includes reconstructing the interchange to remove left hand exits and improve design speed, and modification and/or replacement of existing bridges and ramps. An I-20 westbound collector-distributor (CD) system would be constructed from the Interchange to Fulton Industrial Boulevard. Construction of lanes and improvements would occur along the approximately 6.5 mile I-20 corridor in both directions between Thornton Road and Hamilton E. Holmes Drive and along approximately 2.4 miles of I-285 between D.L. Hollowell Parkway and Martin Luther King Jr. Drive. The project also includes the modification and/or replacement of bridges along I-20, including bridges over the CSX Railroad and the Chattahoochee River. Construction is planned to begin in 2025 or 2026.



**Project details are as follows:**

- Removal of left-hand ramp entrance and exit.
- Improvements to horizontal and vertical alignments.
- Construction of two-lane ramps within the interchange.
- Construction of westbound collector distributor system from I-285 / I-20 West Interchange to Fulton Industrial Boulevard.
- Construction of added lanes along I-20 eastbound.
- Modification and replacement of bridges within the interchange and along I-20 and I-285.

## 18. Approach and Methodology:

Jacobs fully understands the requirements of this RFP for IDIQ services related to Independent Cost Estimating (ICE) and scheduling services. Jacobs is highly qualified to provide these services to the DOTD in support of Construction Manager At Risk (CMAR) programs and other alternate design/delivery programs. We have extensive experience with the Construction Manager/General Contractor (CM/GC) contracting method and with providing independent cost estimating and schedule support services to these programs.

## Understanding, Methodology, and Approach – General Contract Requirements

### Project Management – Task Order Proposal to Execution of Work

Jacobs has vast experience in generating bottom-up, production-based estimates that are initially based upon detailed quantity takeoffs of the agreed-upon scope of work. Jacobs has proposed a team with an experienced principal, project manager, and lead estimator that are all professionals within the field of cost engineering/estimating. These key team members have experience working with both federal and state clients. Our project management team is experienced with the negotiations, management, and timely closeout of ICE services contracts. Our project management team is fully committed to:

- Reviewing Task Order Requests.
- Providing Price Proposals. Negotiating Task Orders.
- Marshaling team resources specific to each TO request.
- Attendance of the project kick-off meetings.
- Daily coordination of the ICE team and subcontractors to ensure timely completion of deliverables.
- Our PM and Lead Estimator will personally attend the project milestone meetings.

### Cybersecurity Training

Our Jacobs' team has reviewed cybersecurity training requirement, and we will work diligently to ensure each team member is aware of the additional requirements, in accordance with La. R.S. 42:1267(B)(3). At a minimum, we will ensure each team member has received the appropriate training, and documentation will be supplied to the DOTD contracting representative.

### Quality Assurance Plan

Within 10 days of an award to our team, we will provide a detailed Quality Assurance/Quality Control Plan for Jacobs and our key subconsultant Legis. This specific project requirement was a primary decision factor for selecting Legis as key subconsultant. Legis is a small business that specializes in independent cost estimating and will provide critical reviews of our work products to ensure complete, accurate, and compliant documents for DOTD under this contract. Jacobs and Legis have successful past performance working together on CMAR contracts for state and federal clients.



*St. Louis Union Station Tunnel Rehabilitation, Metro St. Louis, MO. Jacobs is currently generating ICEs at the various stages of design development and negotiating directly with both the owner and the CM/GC.*

### **Project Reference Documentation (PRD)**

The Jacobs team has reviewed the reference document list, and we understand the importance of compliance with these documents. The project manager and the lead estimator will be tasked with ensuring compliance with the project reference documents. Additionally, Jacobs will develop an Interior SharePoint Site dedicated as a resource library for the PRDs. Each discipline lead will be provided access to SharePoint for their use and reference. The PM and Lead Estimator will conduct periodic reviews during the task order performance to ensure the work is completed in compliance with the PRDs. Additionally, the PM and Cost Lead will ensure each team member has access to these documents and is using the documents as references to clarify project requirements while developing their work products.

### **Understanding of Contract Awards and Task Order Awards**

We have reviewed the RFP and Jacobs is confident in our ability to negotiate and execute the agreement within the 10 days of the notice of award. Further, we understand this contract is a Multiple Award Task Order (MATOC) agreement, with a secondary selection process. We have reviewed the secondary selection criteria and we are looking forward to the competition for task order awards under the selection criteria in the RFP Attachment C.

## **Understanding, Methodology, and Approach – Attachment A – Scope of Services**

Our Jacobs team understands the requirement for providing in-depth cost and schedule analysis as the ICE on CMAR contracts. We also understand this service may include providing constructability reviews, risk identification and mitigation recommendations, and value engineering. Therefore, we have developed a deep team of discipline leads. Our discipline leads are senior staff within Jacobs, and they are experienced providers of VE, constructability, risk, and financial reviews. Our collaborative team of professionals understand and embraces the opportunity to work closely with the DOTD, the project designer, and the CMAR (CM/GC) to:

- Review the project requirements at the kickoff meeting.
- Review, refine, define and/or confirm the bid line items and take-off quantities.
- Coordinate with CM/GC to develop a detailed and complete Work Breakdown Schedule (WBS).
- Develop estimate and analysis report formats with DOTD to ensure easy review of the work product.
- Conduct detailed documents and calculations to support our bottom-up estimates.



*West Rail Line from the Denver Union Station to the Jefferson County Government Center, Regional Transportation District (RTD), Golden, CO. Jacobs produced ICEs for this project at the various design development stages and negotiated directly with both the owner and the CM/GC.*

*Jacobs brings together expertise in CM/GC delivery with a depth of transportation experience that promotes added value and innovative approaches at every turn.*

- Conduct QA/QC reviews of the work product to ensure accurate, fair, and reasonable estimates.
- Conduct site visits, review site conditions, review plans/specifications, and identify trends in the local market conditions to ensure accurate estimates.
- Attend milestone meetings and work group meetings with the CM/GC, designer, and DOTD to review and reconcile cost estimates, and to participate in VE, Risk Management, and Financial Planning sessions.
- Our PM and Cost Lead will work with our estimating team to ensure our work products comply with AACEI and industry standards. Additionally, Legis, will conduct 3<sup>rd</sup> party QC reviews our work product to ensure our teams are providing accurate and complete work product under this quality standard.
- Our team will be available throughout the project's lifecycle to assist DOTD, as directed. Team members are available to provide reviews of EWP/GMP, schedule support services, field observations. Additionally, team members will be available to make recommendations on industry best practices, and VE/Risk/Financial reviews and validations.

Our team has reviewed the lists of commercial cost estimating software packages and scheduling software packages identified in the RFP. Our team will have multiple team members experienced with each program and several team members have expert certifications in the referenced programs. Additionally, we recognize the lists are not all inclusive and have identified several other products that are specific to individual contractors. For example, InEight (formally Hard Dollar) is a product used by Peter Kiewit Co., Weeks Marine, and several other national contractors. Regardless of the estimating tool, our team is confident in our ability to match capabilities with any CM/CG on any task order specific computer aided estimating or scheduling program.

We will develop our estimates “open book”. We have no concerns with providing our work product and cost databases to DOTD, CM/CG, and other designers. As a national leader in program management services, and the 2023 ENR #1 Firm for Program Management, we will leverage our capabilities to continue publishing our quarterly construction market report, which identifies national and regional market trends, commodity trends, national construction cost indexes, and cost modifiers factored by city or region, which serve as a tool kit to help us forecast and predict project costs for different locations in the United States. The report begins with an overview analysis of national construction trends, and then provides a focused analysis of targeted market areas. In addition to our quarterly report, for each cost estimate we produce, we develop a construction market report specific to the local area.

### **Forecasting Final Quantities and Cost**

Our historical cost database enables us to forecast final quantities and completed project costs at the early stages of the project. Realizing that this quantitative method can be used to competitively solicit and build a team of selected subcontractors in the integrated project delivery process, we are acutely aware of the need for estimating accuracy. Use of our in-house mechanical, electrical, and low-voltage estimators will allow us to work with DOTD's mechanical and electrical engineers or users to develop a very early quantitative analysis (quantity survey) of the work that can be used to develop a detailed cost model and track the development of the scope of work in the project. Our estimators come from the trades and know the processes required for initial estimate and quantity survey development and follow this process from inception to completion.

**Our team is well qualified to provide these value-added services for DOTD, given our extensive experience as a facilities designer, construction manager and independent estimator.**

## Preparing Parametric Cost Estimates

We have the experience and the tools to produce parametric cost estimates in detail. We coordinate which software estimating tool to use for estimate development, along with the development of a very detailed work breakdown structure (WBS). Alternatively, we can develop another template to be mutually agreed upon with the DOTD. We maintain a Jacobs nationwide database with detailed quantitative analysis and costs from past projects. The database helps fill in the blanks with detailed quantitative cost information to produce an accurate parametric cost estimate for the scope of work anticipated.

## Project Approach

Jacobs will produce independent cost estimates during the design, using contractor style methods and production-based heavy civil estimating software. Independent cost estimates are expected to occur at the four pricing milestones during the design phase (30, 60, 90, and 100 percent/GMP). We may also be requested to provide EWP estimates to support DOTD.



*Mid-Barataria Sediment Diversion, SE Louisiana (Mississippi River). For this \$1.8B ongoing project, Jacobs is managing the ICE and CMAR estimating process. Several proposed team members worked directly for the ICE team during the design phase development stages and negotiated directly with both the owner and the CM/GC.*

Jacobs will provide a final recommendation to DOTD on the reasonableness of the GMP estimate. Jacobs' lead estimator will attend cost estimate reconciliation meetings between DOTD, the designer, and the CM/GC contractor at all pricing milestones. During these meetings, Jacobs will gain a mutual understanding of bidding assumptions including means and methods, equipment, material costs, and risk assignment. We will provide DOTD with unbiased advice regarding the most cost-effective ways of accomplishing the work. At each pricing milestone Jacobs will provide feedback on risk management, which may include risk identification, assessment, cost quantification, and assignment of the probability of occurrence.

Lastly, contractor contingencies are applied to our estimates based on contractor-allocated risk along with the addition of general conditions cost, such as insurance, and rates for overhead and profit. The result is our detailed Opinion of Probable Construction Cost (OPCC). These are important work products as they provide DOTD with an independent opinion of the price this project would bid for on the open market.

Throughout the process Jacobs will assist DOTD to determine cost impacts of project phasing, labor availability, mobilization and site access, sequence of design and construction, and availability and procurement of equipment and materials. To provide DOTD with the most value, Jacobs will deliver this project using the senior estimating resources identified in our organization chart. The team of cost professionals will provide the complete, accurate, and detailed deliverables listed in Attachment A, and our client advisory services; VE, Risk Management, Constructability Reviews, and Financial/Funding review services.

# **IDIQ Contracts for Independent Cost Estimating Statewide**

**Louisiana Department of Transportation and Development**

## **Section 4 – 24-102**

**Section 19: Workload**

**Section 20: Certifications/Licenses**

**Section 21: QA/QC Plan**

**Section 22: Subconsultant Information**

**Section 23: Location**

**19. Workload:**

Firm(s) ALL FIRMS MUST BE REPRESENTED IN THIS TABLE	Past Performance Evaluation Discipline(s) *	Contract Number and State Project Number	Project Name	Remaining Unpaid Balance**
Jacobs Engineering Group Inc.	None	None	None	None
Legis Consultancy, Inc.	None	None	None	None

**20. Certifications/Licenses:**

If the advertisement requires submission of licenses and/or certificates, include them here. **Otherwise, leave this section blank.**

We understand no certificates are required for this proposal response.

**21. QA/QC Plan:**

We understand and QA/QC is not currently required for the proposal response but is required within 10 days after award notice.

**22. Sub-consultant information:**

<b>Firm Name (Name must match as registered with Louisiana's Secretary of State)</b>	<b>Address</b>	<b>Point of Contact and email address</b>	<b>Phone Number</b>
Legis Consultancy, Inc.	9 Dunwoody Park, Suite 131 Atlanta, GA 30338	Patrick Ray <a href="mailto:P.Ray@legisconsultancy.com">P.Ray@legisconsultancy.com</a>	404.509.2441

**23. Location:**

