Agreement No. Resolution No. 081116(e)

AGREEMENT BETWEEN THE COUNTY OF SAN MATEO AND TRC Engineers, Inc.

This Agreement is entered into this Thursday, May 1, 2025, by and between the County of San Mateo, a political subdivision of the state of California, hereinafter called "County," and TRC Engineers, Inc., hereinafter called "Contractor."

* * *

Whereas, pursuant to Section 31000 of the California Government Code, County may contract with independent contractors for the furnishing of such services to or for County or any Department thereof; and

Whereas, it is necessary and desirable that Contractor be retained for the purpose of Clean Energy Engineering and Consulting Services.

Now, therefore, it is agreed by the parties to this Agreement as follows:

1. Exhibits and Attachments

The following exhibits and attachments are attached to this Agreement and incorporated into this Agreement by this reference:

Exhibit A—Services
Exhibit B—Payments and Rates
Exhibit C—Sanctions Against Russia Letter of Compliance
Attachment I—§ 504 Compliance

2. Services to be performed by Contractor

In consideration of the payments set forth in this Agreement and in Exhibit B, Contractor shall perform services for County in accordance with the terms, conditions, and specifications set forth in this Agreement and in Exhibit A.

3. Payments

In consideration of the services provided by Contractor in accordance with all terms, conditions, and specifications set forth in this Agreement and in Exhibit A, County shall make payment to Contractor based on the rates and in the manner specified in Exhibit B. County reserves the right to withhold payment if County determines that the quantity or quality of the work performed is unacceptable. In no event shall County's total fiscal obligation under this Agreement exceed SIX HUNDRED THOUSAND DOLLARS AND NO CENTS ($600,000.00). In the event that the County makes any advance payments, Contractor agrees to refund any amounts in excess of the amount owed by the County at the time of contract termination or expiration. Contractor is not entitled to payment for work not performed as required by this agreement.

4. Term

Subject to compliance with all terms and conditions, the term of this Agreement shall be from Thursday, May 1, 2025 through Sunday, April 30, 2028.

5. Termination

This Agreement may be terminated by Contractor or by the Interim Director or his/her designee at any time without a requirement of good cause upon thirty (30) days' advance written notice to the other party. Subject to availability of funding, Contractor shall be entitled to receive payment for work/services provided prior to termination of the Agreement. Such payment shall be that prorated portion of the full payment determined by comparing the work/services actually completed to the work/services required by the Agreement.

County may terminate this Agreement or a portion of the services referenced in the Attachments and Exhibits based upon the unavailability of Federal, State, or County funds by providing written notice to Contractor as soon as is reasonably possible after County learns of said unavailability of outside funding.

County may terminate this Agreement for cause. In order to terminate for cause, County must first give Contractor notice of the alleged breach. Contractor shall have five business days after receipt of such notice to respond and a total of ten calendar days after receipt of such notice to cure the alleged breach. If Contractor fails to cure the breach within this period, County may immediately terminate this Agreement without further action. The option available in this paragraph is separate from the ability to terminate without cause with appropriate notice described above. In the event that County provides notice of an alleged breach pursuant to this section, County may, in extreme circumstances, immediately suspend performance of services and payment under this Agreement pending the resolution of the process described in this paragraph. County has sole discretion to determine what constitutes an extreme circumstance for purposes of this paragraph, and County shall use reasonable judgment in making that determination.

6. Contract Materials

At the end of this Agreement, or in the event of termination, all finished or unfinished documents, data, studies, maps, photographs, reports, and other written materials (collectively referred to as "contract materials") prepared by Contractor under this Agreement shall become the property of County and shall be promptly delivered to County. Upon termination, Contractor may make and retain a copy of such contract materials if permitted by law.

7. Relationship to Parties

Contractor agrees and understands that the work/services performed under this Agreement are performed as an independent contractor and not as an employee of County and that neither Contractor nor its employees acquire any of the rights, privileges, powers, or advantages of County employees.

8. Hold Harmless

a. **General Hold Harmless**

Contractor shall indemnify and save harmless County and its officers, agents, employees, and servants from all claims, suits, or actions of every name, kind, and description resulting from this Agreement, the performance of any work or services required of Contractor under this Agreement, or payments made pursuant to this Agreement brought for, or on account of, any of the following:

(A) injuries to or death of any person, including Contractor or its employees/officers/agents;

(B) damage to any property of any kind whatsoever and to whomsoever belonging;

(C) any sanctions, penalties, or claims of damages resulting from Contractor's failure to comply, if applicable, with the requirements set forth in the Health Insurance Portability and Accountability Act of 1996 (HIPAA) and all Federal regulations promulgated thereunder, as amended; or

(D) any other loss or cost, including but not limited to that caused by the concurrent active or passive negligence of County and/or its officers, agents, employees, or servants. However, Contractor's duty to indemnify and save harmless under this Section shall not apply to injuries or damage for which County has been found in a court of competent jurisdiction to be solely liable by reason of its own negligence or willful misconduct.

The duty of Contractor to indemnify and save harmless as set forth by this Section shall include the duty to defend as set forth in Section 2778 of the California Civil Code.

9. Assignability and Subcontracting

Contractor shall not assign this Agreement or any portion of it to a third party or subcontract with a third party to provide services required by Contractor under this Agreement without the prior written consent of County. Any such assignment or subcontract without County's prior written consent shall give County the right to automatically and immediately terminate this Agreement without penalty or advance notice.

10. Insurance

10.1. General Requirements

Contractor shall not commence work or be required to commence work under this Agreement unless and until all insurance required under this Section has been obtained and such insurance has been approved by County's Risk Management, and Contractor shall use diligence to obtain such insurance and to obtain such approval. Contractor shall furnish County with certificates of insurance evidencing the required coverage, and there shall be a specific contractual liability endorsement extending Contractor's coverage to include the contractual liability assumed by Contractor pursuant to this Agreement. These certificates shall specify or be endorsed to provide that thirty (30) days' notice must be given, in writing, to County of any pending change in the limits of liability or of any cancellation or modification of the policy.

10.2. Workers' Compensation and Employer's Liability Insurance

Contractor shall have in effect during the entire term of this Agreement workers' compensation and employer's liability insurance providing full statutory coverage. In signing this Agreement, Contractor certifies, as required by Section 1861 of the California Labor Code, that (a) it is aware of the provisions of Section 3700 of the California Labor Code, which require every employer to be insured against liability for workers' compensation or to undertake self-insurance in accordance with the provisions of the Labor Code, and (b) it will comply with such provisions before commencing the performance of work under this Agreement.

10.3. Liability Insurance

Contractor shall take out and maintain during the term of this Agreement such bodily injury liability and property damage liability insurance as shall protect Contractor and all of its employees/officers/agents while performing work covered by this Agreement from any and all claims for damages for bodily injury, including accidental death, as well as any and all claims for property damage which may arise from Contractor's operations under this Agreement, whether such operations be by Contractor, any subcontractor, anyone directly or indirectly employed by either of them, or an agent of either of them. Such insurance shall be combined single limit bodily injury and property damage for each occurrence and shall not be less than the amounts specified below:

(a) Comprehensive General Liability…… $1,000,000 , (b) Motor Vehicle Liability Insurance…… $1,000,000 , (c) Professional Liability…… $1,000,000

County and its officers, agents, employees, and servants shall be named as additional insured on any such policies of insurance, which shall also contain a provision that (a) the insurance afforded thereby to County and its officers, agents, employees, and servants shall be primary insurance to the full limits of liability of the policy and (b) if the County or its officers, agents, employees, and servants have other insurance against the loss covered by such a policy, such other insurance shall be excess insurance only.

In the event of the breach of any provision of this Section, or in the event any notice is received which indicates any required insurance coverage will be diminished or canceled, County, at its option, may, notwithstanding any other provision of this Agreement to the contrary, immediately declare a material breach of this Agreement and suspend all further work and payment pursuant to this Agreement.

11. Compliance With Laws

All services to be performed by Contractor pursuant to this Agreement shall be performed in accordance with all applicable Federal, State, County, and municipal laws, ordinances, regulations, and executive orders, including but not limited to the Health Insurance Portability and Accountability Act of 1996 (HIPAA) and the Federal Regulations promulgated thereunder, as amended (if applicable), the Business Associate requirements set forth in Attachment H (if attached), the Americans with Disabilities Act of 1990, as amended, and Section 504 of the Rehabilitation Act of 1973, which prohibits discrimination on the basis of disability in programs and activities receiving any Federal or County financial assistance, as well as any required economic or other sanctions imposed by the United States government or under state law in effect during the term of the Agreement. Such services shall also be performed in accordance with all applicable ordinances and regulations, including but not limited to appropriate licensure, certification regulations, provisions pertaining to confidentiality of records, and applicable quality assurance regulations. In the event of a conflict between the terms of this Agreement and any applicable State, Federal, County, or municipal law, regulation, or executive order, the requirements of the applicable law, regulation, or executive order will take precedence over the requirements set forth in this Agreement.

Contractor will timely and accurately complete, sign, and submit all necessary documentation of compliance.

12. Non-Discrimination and Other Requirements

12.1. General Non-discrimination

No person shall be denied any services provided pursuant to this Agreement (except as limited by the scope of services) on the grounds of race, color, national origin, ancestry, age, disability (physical or mental), sex, sexual orientation, gender identity, marital or domestic partner status, religion, political beliefs or affiliation, familial or parental status (including pregnancy), medical condition (cancer-related), military service, or genetic information.

12.2. Equal Employment Opportunity

Contractor shall ensure equal employment opportunity based on objective standards of recruitment, classification, selection, promotion, compensation, performance evaluation, and management relations for all employees under this Agreement. Contractor's equal employment policies shall be made available to County upon request.

12.3. Section 504 of the Rehabilitation Act of 1973

Contractor shall comply with Section 504 of the Rehabilitation Act of 1973, as amended, which provides that no otherwise qualified individual with a disability shall, solely by reason of a disability, be excluded from the participation in, be denied the benefits of, or be subjected to discrimination in the performance of any services this Agreement. This Section applies only to contractors who are providing services to members of the public under this Agreement.

12.4. Compliance with County's Equal Benefits Ordinance

Contractor shall comply with all laws relating to the provision of benefits to its employees and their spouses or domestic partners, including, but not limited to, such laws prohibiting discrimination in the provision of such benefits on the basis that the spouse or domestic partner of the Contractor's employee is of the same or opposite sex as the employee.

12.5. Discrimination Against Individuals with Disabilities

The nondiscrimination requirements of 41 C.F.R. 60-741.5(a) are incorporated into this Agreement as if fully set forth here, and Contractor and any subcontractor shall abide by the requirements of 41 C.F.R. 60–741.5(a). This regulation prohibits discrimination against qualified individuals on the basis of disability and requires affirmative action by covered prime contractors and subcontractors to employ and advance in employment qualified individuals with disabilities.

12.6. History of Discrimination

Contractor certifies that no finding of discrimination has been issued in the past 365 days against Contractor by the Equal Employment Opportunity Commission, the California Department of Fair Employment and Housing, or any other investigative entity. If any finding(s) of discrimination have been issued against Contractor within the past 365 days by the Equal Employment Opportunity Commission, the California Department of Fair Employment and Housing, or other investigative entity, Contractor shall provide County with a written explanation of the outcome(s) or remedy for the discrimination prior to execution of this Agreement. Failure to comply with this Section shall constitute a material breach of this Agreement and subjects the Agreement to immediate termination at the sole option of the County.

12.7. Reporting; Violation of Non-discrimination Provisions

Contractor shall report to the County Executive Officer the filing in any court or with any administrative agency of any complaint or allegation of discrimination on any of the bases prohibited by this Section of the Agreement or the Section titled "Compliance with Laws". Such duty shall include reporting of the filing of any and all charges with the Equal Employment Opportunity Commission, the California Department of Fair Employment and Housing, or any other entity charged with the investigation or adjudication of allegations covered by this subsection within 30 days of such filing, provided that within such 30 days such entity has not notified Contractor that such charges are dismissed or otherwise unfounded. Such notification shall include a general description of the circumstances involved and a general description of the kind of discrimination alleged (for example, gender-, sexual orientation-, religion-, or race-based discrimination).

Violation of the non-discrimination provisions of this Agreement shall be considered a breach of this Agreement and subject the Contractor to penalties, to be determined by the County Executive Officer, including but not limited to the following:

i. termination of this Agreement;

ii. disqualification of the Contractor from being considered for or being awarded a County contract for a period of up to 3 years;

iii. liquidated damages of $2,500 per violation; and/or

iv. imposition of other appropriate contractual and civil remedies and sanctions, as determined by the County Executive Officer.

To effectuate the provisions of this Section, the County Executive Officer shall have the authority to offset all or any portion of the amount described in this Section against amounts due to Contractor under this Agreement or any other agreement between Contractor and County.

13. Compliance with County Employee Jury Service Ordinance

Contractor shall comply with Chapter 2.85 of the County's Ordinance Code, which states that Contractor shall have and adhere to a written policy providing that its employees, to the extent they are full-time employees and live in San Mateo County, shall receive from the Contractor, on an annual basis, no fewer than five days of regular pay for jury service in San Mateo County, with jury pay being provided only for each day of actual jury service. The policy may provide that such employees deposit any fees received for such jury service with Contractor or that the Contractor may deduct from an employee's regular pay the fees received for jury service in San Mateo County. By signing this Agreement, Contractor certifies that it has and adheres to a policy consistent with Chapter 2.85. For purposes of this Section, if Contractor has no employees in San Mateo County, it is sufficient for Contractor to provide the following written statement to County: "For purposes of San Mateo County's jury service ordinance, Contractor certifies that it has no full-time employees who live in San Mateo County. To the extent that it hires any such employees during the term of its Agreement with San Mateo County, Contractor shall adopt a policy that complies with Chapter 2.85 of the County's Ordinance Code." The requirements of Chapter 2.85 do not apply unless this Agreement's total value listed in the Section titled "Payments", exceeds two-hundred thousand dollars ($200,000); Contractor

acknowledges that Chapter 2.85's requirements will apply if this Agreement is amended such that its total value exceeds that threshold amount.

14. Retention of Records; Right to Monitor and Audit

(a) Contractor shall maintain all required records relating to services provided under this Agreement for three (3) years after County makes final payment and all other pending matters are closed, and Contractor shall be subject to the examination and/or audit by County, a Federal grantor agency, and the State of California.

(b) Contractor shall comply with all program and fiscal reporting requirements set forth by applicable Federal, State, and local agencies and as required by County.

(c) Contractor agrees upon reasonable notice to provide to County, to any Federal or State department having monitoring or review authority, to County's authorized representative, and/or to any of their respective audit agencies access to and the right to examine all records and documents necessary to determine compliance with relevant Federal, State, and local statutes, rules, and regulations, to determine compliance with this Agreement, and to evaluate the quality, appropriateness, and timeliness of services performed.

15. Merger Clause; Amendments

This Agreement, including the Exhibits and Attachments attached to this Agreement and incorporated by reference, constitutes the sole Agreement of the parties to this Agreement and correctly states the rights, duties, and obligations of each party as of this document's date. In the event that any term, condition, provision, requirement, or specification set forth in the body of this Agreement conflicts with or is inconsistent with any term, condition, provision, requirement, or specification in any Exhibit and/or Attachment to this Agreement, the provisions of the body of the Agreement shall prevail. Any prior agreement, promises, negotiations, or representations between the parties not expressly stated in this document are not binding. All subsequent modifications or amendments shall be in writing and signed by the parties.

16. Controlling Law; Venue

The validity of this Agreement and of its terms, the rights and duties of the parties under this Agreement, the interpretation of this Agreement, the performance of this Agreement, and any other dispute of any nature arising out of this Agreement shall be governed by the laws of the State of California without regard to its choice of law or conflict of law rules. Any dispute arising out of this Agreement shall be venued either in the San Mateo County Superior Court or in the United States District Court for the Northern District of California.

17. Notices

Any notice, request, demand, or other communication required or permitted under this Agreement shall be deemed to be properly given when both: (1) transmitted via email to the email address listed below; and (2) sent to the physical address listed below by either being deposited in the United States mail, postage prepaid, or deposited for overnight delivery, charges prepaid, with an established overnight courier that provides a tracking number showing confirmation of receipt.

In the case of County, to:

Name/Title: Sam Lin/Interim Director
Address: 500 County Center, 5th Floor, Redwood City, CA, 94063
Telephone: (408) 391-5150
Email: slin@smcgov.org

In the case of Contractor, to:

Name/Title: Paul David/Vice President
Address: 3084 17th Street, San Francisco, CA 94110
Telephone: (503) 975-7925
Email: pdavid@trccompanies.com

18. Electronic Signature

Both County and Contractor wish to permit this Agreement and future documents relating to this Agreement to be digitally signed in accordance with California law and County's Electronic Signature Administrative Memo. Any party to this Agreement may revoke such agreement to permit electronic signatures at any time in relation to all future documents by providing notice pursuant to this Agreement.

19. Payment of Permits/Licenses

Contractor bears responsibility to obtain any license, permit, or approval required from any agency for work/services to be performed under this Agreement at Contractor's own expense prior to commencement of said work/services. Failure to do so will result in forfeit of any right to compensation under this Agreement.

20. Reimbursable Travel Expenses

To the extent that this Agreement authorizes reimbursements to Contractor for travel, lodging, and other related expenses as defined in this section, the Contractor must comply with all the terms of this section in order to be reimbursed for travel.

A. Estimated travel expenses must be submitted to authorized County personnel for advanced written authorization before such expenses are incurred. Significant differences between estimated and actual travel expenses may be grounds for denial of full reimbursement of actual travel expenses.

B. Itemized receipts (copies accepted) for all reimbursable travel expenses are required to be provided as supporting documentation with all invoices submitted to the County.

C. Unless otherwise specified in this section, the County will reimburse Contractor for reimbursable travel expenses for days when services were provided to the County. Contractor must substantiate in writing to the County the actual services rendered and the specific dates. The County will reimburse for travel at 75% of the maximum reimbursement amount for the actual costs of meals and incidental expenses on the day preceding and/or the day following days when services were provided to the County, provided that such reimbursement is reasonable, in light of travel time and other relevant factors, and is approved in writing by authorized County personnel.

D. Unless otherwise specified within the contract, reimbursable travel expenses shall not include Local Travel. "Local Travel" means travel entirely within a fifty-mile radius of the Contractor's office and travel entirely within a fifty-mile radius of San Mateo County. Any mileage reimbursements for a Contractor's use of a personal car for reimbursable travel shall be reimbursed based on the Federal mileage reimbursement rate.

E. The maximum reimbursement amount for the actual lodging, meal and incidental expenses is limited to the then-current Continental United States ("CONUS") rate for the location of the work being done (i.e., Redwood City for work done in Redwood City, San Mateo for work done at San Mateo Medical Center) as set forth in the Code of Federal Regulations and as listed by the website of the U.S. General Services Administration (available online at http://www.gsa.gov/portal/content/104877 or by searching www.gsa.gov for the term 'CONUS'). County policy limits the reimbursement of lodging in designated high cost of living metropolitan areas to a maximum of double the then-current CONUS rate; for work being done outside of a designated high cost of living metropolitan area, the maximum reimbursement amount for lodging is the then-current CONUS rate.

F. The maximum reimbursement amount for the actual cost of airfare shall be limited to fares for Economy Class or below. Air travel fares will not be reimbursed for first class, business class, "economy-plus," or other such classes. Reimbursable car rental rates are restricted to the mid-level size range or below (i.e. standard size, intermediate, compact, or subcompact); costs for specialty, luxury, premium, SUV, or similar category vehicles are not reimbursable. Reimbursable ride-shares are restricted to standard or basic size vehicles (i.e., non-premium vehicles unless it results in a cost-saving to the County). Exceptions may be allowed under certain circumstances, such as unavailability of the foregoing options, with written approval from authorized County personnel. Other related travel expenses such as taxi fares, ride-shares, parking costs, train or subway costs, etc. shall be reimbursable on an actual-cost basis. Reimbursement of tips for taxi fare, or ride-share are limited to no more than 15% of the fare amount.

G. Travel-related expenses are limited to: airfare, lodging, car rental, taxi/ride-share plus tips, tolls, incidentals (e.g. porters, baggage carriers or hotel staff), breakfast, lunch, dinner, mileage reimbursement based on Federal reimbursement rate. The County will not reimburse for alcohol.

H. Reimbursement of tips are limited to no more than 15 percent. Non-reimbursement items (i.e., alcohol) shall be excluded when calculating the amount of the tip that is reimbursable.

21. Prevailing Wage - If Applicable

When applicable, Contractor hereby agrees to pay not less than prevailing rates of wages and be responsible for compliance with all the provisions of the California Labor Code, Article 2-Wages, Chapter 1, Part 7, Division 2, Section 1770 et seq. A copy of the prevailing wage scale established by the Department of Industrial Relations is on file in the office of the Director of Public Works, and available at www.dir.ca.gov/DLSRor by phone at 415-703-4774. California Labor Code Section 1776(a) requires each contractor and subcontractor keep accurate payroll records of trades workers on all public works projects and to submit copies of certified payroll records upon request.

Additionally,

• No contractor or subcontractor may be listed on a bid proposal for a public works project (submitted after March 1, 2015) unless registered with the Department of Industrial Relations pursuant to Labor Code section 1725.5 [with limited exceptions from this requirement for bid purposes only under Labor Code section 1771.1(a)].

• No contractor or subcontractor may be awarded a contract for public work on a public works project (awarded on or after April 1, 2015) unless registered with the Department of Industrial Relations pursuant to Labor Code section 1725.5.

This project is subject to compliance monitoring and enforcement by the Department of Industrial Relations

22. SB1383

23. Rehabilitation Act of 1973

Refer to the attachment required to be completed by the Contractor.

24. Exhibits A and B

Exhibit A

In consideration of the payments set forth in Exhibit B, Contractor shall provide the following services:

Scope of Work

A. **Procurement / Request for Proposal (RFP) Management and Vendor Selection**

- Assist the client with RFP process.
- Review vendor bid submission documents and conduct bid conference call.
- Produce summary evaluation matrix and present with final vendor recommendation.

B. **Contracting support**

- Facilitate contract negotiation meetings with the County of San Mateo and vendor.
- Review and comment on contract documents and assist with negotiation with selected vendor.

C. **Design Review and Assistance**

- Attend required design meetings.
- Review and comment on design documents.
- Remodel project financial and potential cost saving and ROI and environmental performance, if necessary.
- Review vendor contract documents requirements, existing conditions, design process, and discuss implementation logistics.
- Review Developer site discovery scope and results. Discuss any changed conditions and coordinate design modifications with the County and Developer.
- Review and assist with interconnection applications and agreements with Utility, as necessary.

D. **Technical Construction Support**

- Participate and attend required meetings.
- Review and respond to Request for Information (RFIs) and submittals.
- Technical review/comments/support to Project and Construction Manager
- Perform site inspections and produce inspection report for each site visit.

E. **Commissioning (Cx) Verification and Project Closeout**

- Vendor Cx Report review and comment.
- Punchlist
- Cx Verification and report

F. **Asset Management**

- Monitoring platform setup and annual site management

G. **Data Collection and Analysis:**

- Gathering energy usage data from utility bills and building management systems.
- Performing on-site building assessments to identify potential inefficiencies.
- Analyzing historical energy consumption trends.
- Utilizing energy modeling software to simulate potential energy savings.

H. **Renewable Energy Evaluation:**

- Assessing feasibility of integrating renewable energy sources like solar or wind power.
- Analyzing potential economic benefits and environmental impacts of renewable energy options.

I. **Reporting and Communication:**

- Preparing detailed reports outlining findings, recommendations, and cost projections.
- Presenting findings to client stakeholders and providing ongoing updates.
- Developing training materials for staff on energy conservation practices.

Exhibit B

In consideration of the services provided by Contractor described in Exhibit A and subject to the terms of the Agreement, County shall pay Contractor based on the following fee schedule and terms:

TITLES	HOURLY RATES
Engineering Manager	$254
Program Manager	$244
Senior Project Manager II	$239
Senior Project Manager I	$234
Engineer V	$224
Project Manager III	$208
Project Manager II	$196
Engineer IV	$190
Project Manager I	$183
Engineer III	$172
Associate PM II	$166
Associate PM I	$161
Engineer II	$152
Project Analyst II	$146
Project Analyst I	$139
Engineer I	$134
Technical Editor	$129

Project Associate II	$127
Project Associate I	$120
Project Assistant	$112

Subcontractor:

TITLES	HOURLY RATES
Principal Engineer	$245
Senior Mechanical/Plumbing Engineer	$215
Senior Electrical Engineer	$215
Engineer I	$160

County shall process Contractor invoice upon receipt of an approved invoice in the County's Accounting Department. A written itemized monthly invoice identifying the Agreement number, location of work, specific work completed, and breakdown of charges must be provided along with any documentation verifying the work billed or hours billed are required along with the invoice.

Effective November 2022, when submitting invoices, Contractor is required to submit supporting documents along with approved invoices. Adequate supporting documents include, among others: deliverable documents, payroll registers, timesheets, detailed invoices, inspection certificates, activity/participant logs, applicant forms, acceptance letters, survey forms, authorized travel/expense forms, service acknowledgment forms, etc. The types of documents required to support/verify information on invoices depends on the specified contracted services and, if applicable, costs to be reimbursed.

Any additional work requested outside of the contract or authorized rates and scope of work can only be billed with proper written County approval, contractor's proposal on the additional requested work, and all necessary backup documentation.

The approved total not-to-exceed amount shall be Six Hundred Thousand Dollars and No Cents ($600,000.00) over the term of this agreement.

Invoices are to be submitted to:
pdu_invoices@smcgov.org
or
Project Development Unit
500 County Center, 5th Floor
Redwood City, CA 94063

Invoices not properly submitted according to this contract may result in delay payment to contractor.

Fingerprinting – If Applicable
Potential staff are required to pass a Live Scan (DOJ and FBI) background check at the contractor's expense prior to working in County facilities. Potential staff shall follow the directions provided by the Project Development Unit to complete this process and will not begin work in a County facility until they have been officially notified in writing by the Project Development Unit that they have received background clearance.

Background Clearance – If Applicable
Contractors will be required to provide a list of names of each proposed employee to the Project Development Unit 30 days prior to the assignment of any employee. The cost of the Department of Justice clearance is the responsibility of the Contractor. Contract employees will not be permitted to begin work prior to DOJ clearance and received County issued card key badge. Failure to do so will result in the immediate removal of contractor's employee. Contractor is responsible for maintaining proper security clearance for each employee throughout the duration of this agreement and will notify the County within 24 hours of learning of any arrest or detainment of an employee.

SIGNATURE PAGE TO FOLLOW

In witness of and in agreement with this Agreement's terms, the parties, by their duly authorized representatives, affix their respective signatures:

For Contractor: TRC Engineers, Inc.

Signed by:
Paul David
FD5EE5101C724F8...

Contractor Signature	Apr-03-2025 | 08:09 PDT	Paul David
	Date	Contractor Name (please print)

COUNTY OF SAN MATEO

By: Resolution No. 081116(e)

President, Board of Supervisors, San Mateo County

Date: May 6, 2025

ATTEST:

By:

Clerk of Said Board

TRCCOMPANIES.COM

County of San Mateo

Request for Proposals (RFP) for Clean Energy Engineering and Consulting Services - Project Development Unit

Submitted to:
Jasmine Gao
Capital Project Manager II

Submitted by:
TRC Engineers, Inc.
Paul David
Vice President
pdavid@trccompanies.com
503-975-7925

March 5, 2025

Cover Letter

County of San Mateo
Jasmine Gao
Capital Project Manager II

TRC Engineers, Inc.
3084 17th Street
San Francisco, CA 94110

March 5, 2025

Re: Request for Proposals (RFP) for Clean Energy Engineering and Consulting Services

TRC Engineers, Inc. (TRC) applauds San Mateo County's (County) leadership by setting ambitious decarbonization goals and exceeding them through innovative strategies. Your history of setting goals in 2013 for a 17% reduction by 2020 and bettering those goals to achieve 33% in 2017 is a shining example of your commitment and effectiveness. This initiative will help the County exceed your goal to reduce GHG emissions by 45% by 2030. TRC's team embraces our clients' needs, with particular urgency for decarbonization efforts.

TRC, in partnership with ICI Engineers, Inc. (the TRC team), is pleased to present our qualifications to provide professional clean energy engineering and consulting services to the County. The TRC team's experience providing clean energy engineering services to public jurisdictions across California, make us an ideal candidate to perform the scope of work described in the request for proposal. The TRC team offers the County:

- **30+ years of CA Public Sector Experience:** TRC's team has performed clean energy engineering services for California's public sector, including State entities like the California Department of Corrections and Rehabilitation (CDCR), the Department of General Services (DGS), LA Metro, municipalities, and Public-Owned Utilities (POUs).
- **Scalable Resources:** Our deep bench of qualified engineers, subject matter experts, and support staff, allows us to respond efficiently and nimbly to any County facility.
- **You know TRC and the quality results we deliver!** TRC was selected for your Countywide Heat Pump Water Heater Permit Simplification Pilot. TRC has been providing direct support to jurisdictions in San Mateo County in developing and adopted building energy efficiency reach codes through Peninsula Clean Energy (PCE) as their electrification and technical assistance consultant.

We look forward to working with the Project Development Unit to deliver a high-value solution and welcome the opportunity to clarify the details this proposal. Paul David is responsible for communication related to this RFP. Please contact me at 503.975.7925 or pdavid@trccompanies.com if you have any questions. Diane Zukas is authorized to obligate TRC to the commitments in this proposal and to perform the work.

Sincerely,

Diane Zukas, Senior Vice President

Paul David, Vice President

Table of Contents

1 Qualifications and Experience

TRC is a global firm providing **environmentally focused and digitally powered solutions** that address local needs.

For more than 50 years, we have set the bar for clients who require consulting, construction, engineering and management services, **combining science with the latest technology** to devise solutions that stand the test of time.

TRC's nearly 6,000 professionals serve a broad range of public and private clients, steering complex projects from conception to completion to **help solve the toughest challenges**.

We break through barriers for our clients and help them follow through for **sustainable results**.

TRC is a global engineering, consulting, and construction management and environmental consulting firm. We are an established, financially stable, and privately held firm with more than 6,000 technical professionals and support personnel at over 150 offices throughout the United States. We are a registered professional engineering firm with a 47-year track record of excellence in energy and environmental consulting, with 18 offices and over 350 staff in California.

TRC's Advanced Energy group provides comprehensive, integrated energy and resource efficiency services, serving as a trusted energy services partner to government agencies, utilities, and businesses. TRC's Advanced Energy *Engineering* group is a multi-disciplinary consulting team specializing in energy management, strategy, planning, analysis, implementation, and M&V. We help our clients develop and optimize scaled clean energy solutions grounded in technological, economic, market, and customer insights. We are deeply engaged in electrification and decarbonization initiatives, supporting public agencies, local governments, and regional entities to strategize, plan, and implement visions of a clean energy and low-carbon future.

TRC has composed a strong core team based on skills, availability, location, and tenure. The team includes additional mechanical, electrical, plumbing, and structural engineering design capabilities through our subcontractor, **ICI Engineers**. The proposed TRC team can efficiently deploy resources with the right technical skills to meet the County's needs based on project complexity and scope.

The TRC team brings significant collaborative relationships and experience, engaging available resources to maximize the outcome of a project. We have worked, through both contracted and collaborative relationships, with counties and other public agencies; investor-owned and municipal utilities; contractors; manufacturers; energy efficiency, renewable energy, and demand response program implementers; local governments, financing

consultants; technical advisory groups; and community-based organizations. Examples include our relationships with PCE, CDCR, DGS, LA Metro, and BayREN.

The TRC team has full spectrum experience in clean energy engineering, from project inception through execution and handoff. We offer our clients full-service energy engineering and turnkey energy applications. Our energy audit, retro-commissioning, and energy management services will help the County minimize energy usage, reduce GHG emissions, optimize performance and improve facility functionality. We offer a wide variety of energy efficiency services, including energy project scoping studies, ASHRAE level I, II, and III (IGAs) energy, water, and DER audits, heating and cooling load simulations, and detailed building energy use modeling. Our energy consulting services include energy project funding document preparation, energy program development and review, electric and thermal load studies, new design review for energy efficiency and decarbonization, and project implementation oversight.

TRC's engineering and energy service staff are currently engaged in a wide range of projects including but not limited to: Owner's Representative services, energy and renewable energy audits, electrification and decarbonization, technical project review, emerging technologies research and demonstration, codes and standards, and program design. This diverse skillset allows us to maximize resources for our clients and pilot forward-thinking solutions. We have the flexibility and understanding to customize engineering approaches and proposed solutions to the unique needs of each project, and we offer problem solving skills to think beyond immediate problems to long-term solutions.

1.1 The TRC team

TRC's Advanced Energy division employs over 800 staff nationally. We have over 40 employees in California and over 20 in the San Francisco Bay area. The organization chart below indicates 19 staff that are available to begin the County's projects, with another 28 staff available to contribute to ensure that we are responsive to the ebb and flow of County requests. We can concurrently provide up to 3 FTEs at any time to support the County work and more, should it be needed.

1.1.1 Key Personnel

The TRC team includes Key Personnel for TRC and ICI. We have composed a key personnel team based on skills, availability, tenure, and location for easy access and responsiveness to the County. These key individuals will perform the work and will not be substituted or reassigned without the County's prior approval. The team includes additional support from ICI Engineers' Walnut office personnel as consultants for design expertise.

In addition to establishing key personnel roles, TRC does succession planning for each key role in a project. This has the dual benefit of providing career paths for TRC staff, leading to staff retention and project stability and continuity in cases of staffing changes or turnover. It

also assists with staff workload planning, including planning for absences, back-up coverage, training, and other staff activities.

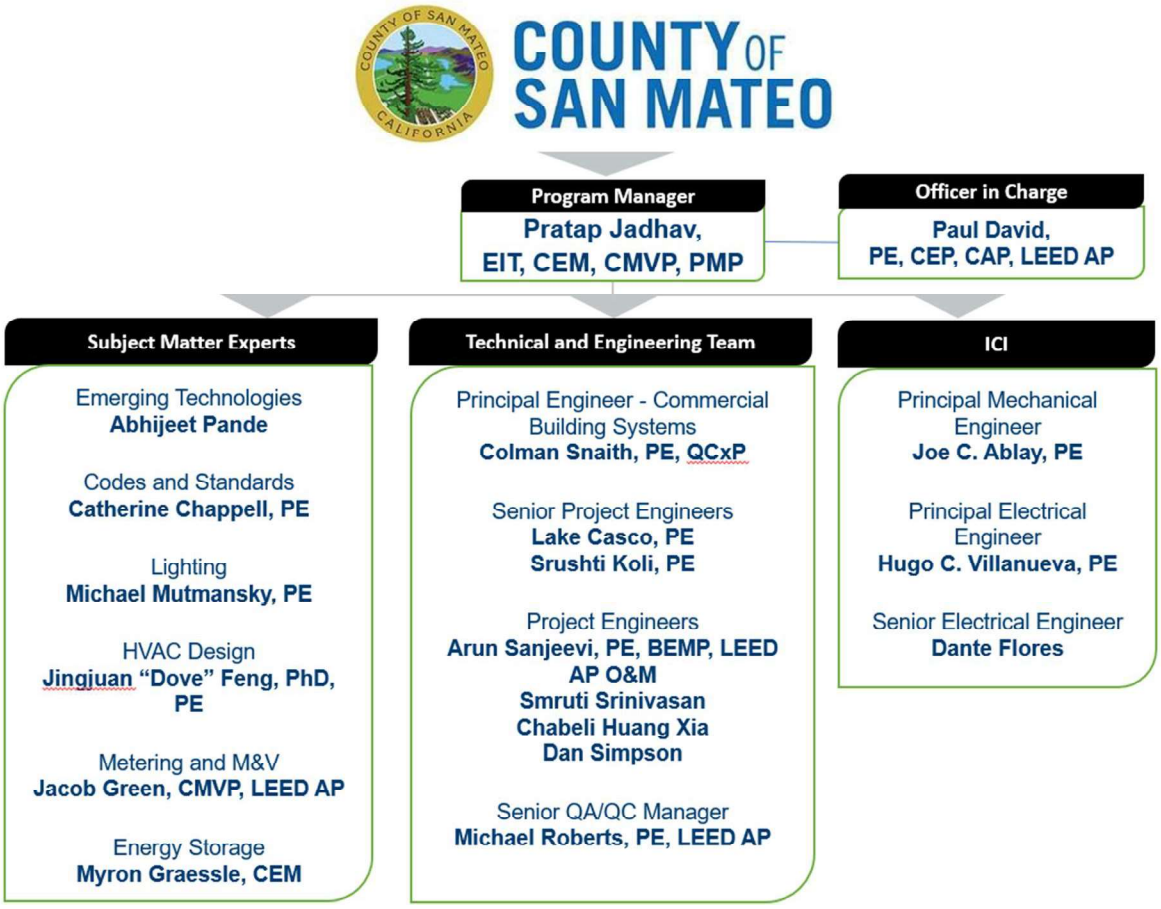


Table 1: Key TRC Team Roles and Locations

(Resumes for the Key TRC team are available in Appendix 1)

Staff Name and Location	Proposed Role
Paul David ***PE, CEPP, LEED AP, CAP*** San Francisco	**Officer in Charge:** Mr. David will provide senior-level oversight and executive sponsorship, which includes leveraging corporate resources and enacting internal controls to ensure quality and on-time and on-budget delivery of engineering services.

Staff Name and Location	Proposed Role
Pratap Jadhav ***EIT, CEM, CMVP*** San Francisco	**Program Manager & Project Engineer IV:** Mr. Jadhav will be the Single Point of Contact for San Mateo County. He currently or has managed staff providing Owner's Engineer services to CDCR. Mr. Jadhav will provide energy engineering services, including field services along with his program management duties. He is Experienced in performing ASHRAE Level energy audits, retro-commissioning studies, energy analysis, measurement and verification activities, and managing contractor-related work (i.e., Owners Engineer).
Colman Snaith ***PE, QCxP*** San Francisco	**Principal Engineer – Commercial Building Systems:** Mr. Snaith is the Principal Engineer for commercial building systems and will conduct QA/QC for those systems. He has provided Owner's Engineer services to CDCR, SFPUC, LA Metro, and Verizon.
Srushti Koli ***PE*** San Francisco	**Project Engineer IV:** Ms. Koli will provide energy engineering services, including field services (as delegated by the program manager).
Lake Casco ***PE*** Irvine	**Senior Project Engineer:** Mr. Casco will provide energy engineering services, including field services (as delegated by the program manager). He is an SME in Deemed Measure Development and is currently working with the three IOUs and LADWP. Additionally, he leads the efforts for City of Chula Vista.
Arun Sanjeevi ***PE, BEMP, LEED AP O&M*** Irvine	**Project Engineer IV:** Mr. Sanjeevi will provide energy engineering services, including field services as delegated by the program manager.
Smruti Srinivasan **San Francisco**	**Project Engineer III:** Ms. Srinivasan will provide energy engineering services, including field services as delegated by the program manager.
Chabeli Huang Xia San Francisco	**Project Engineer II:** Ms. Huang Xia will provide energy engineering services, including field services as delegated by the program manager.
Dan Simpson Rancho Cordova	**Project Engineer III:** Mr. Simpson will provide energy engineering services, including field services as delegated by the program manager.
Michael Roberts ***PE, LEED AP, DCEP*** San Francisco	**Senior Quality Assurance Engineer:** Mr. Roberts will manage QA/QC processes for all engineering calculations and contract deliverables, including those produced by ICI Engineers.
Abhijeet Pande Oakland	**Subject Matter Expert:** Mr. Pande will provide services for emerging technologies.
Catherine Chappell ***PE*** Rancho Cordova	**Subject Matter Expert:** Ms. Chappell will provide services for codes and standards.

Staff Name and Location	Proposed Role
Michael Mutmansky ***PE*** Rancho Cordova	**Lighting Engineer:** Mr. Mutmansky will provide energy engineering services, including field services as delegated by the program manager. He is an SME in all types of lighting.
Jingjuan "Dove" Feng ***PhD, PE*** Oakland	**Subject Matter Expert:** Ms. Feng will provide services for HVAC design.
Jacob Green ***CMVP, LEED AP*** Home office, OR	**Subject Matter Expert:** Mr. Green will provide energy engineering services as delegated by the program manager. He is an SME in metering and M&V.
Myron Graessle ***CEM*** San Francisco	**Subject Matter Expert:** Mr. Graessle will provide energy engineering services, including field services as delegated by the program manager. He is an SME in energy storage.
Joe Ablay ***PE*** Walnut	**Principal Mechanical Engineer:** Mr. Ablay will provide mechanical design or design oversight (as delegated by the program manager) and will conduct QA/QC for mechanical systems.
Hugo C. Villanueva ***PE*** Walnut	**Principal Electrical Engineer:** Mr. Villanueva will provide electrical design or design oversight (as delegated by the program manager) and will conduct QA/QC for electrical systems.
Dante Flores Walnut	**Senior Electrical Engineer:** Mr. Flores will support design tasks as delegated by the principal mechanical and electrical engineers.

As demonstrated below, under Back-up and Replacement Staff, TRC has additional staff in each service region to expand the key personnel locally.

1.1.2 Back-up and Replacement Staff

Beyond the key personnel in our project team, TRC has a deep bench of technical resources in California. TRC's back-up team includes staff located across the state. These staff comprise a wide range of engineering, project management, communications, and administrative skills for efficient response to County requests. Back-up staff names, titles, locations are listed in Table 2. We will leverage this team to efficiently deploy resources with the right technical skills to meet DGS's needs based on project complexity and scope.

Table 2: Table of TRC Back-Up Staff

Name	Business Title	Office Assignment	Years with TRC
David Paton	Director	San Francisco	26
Andrew Gustafson	Associate Director	San Francisco	15
Marc Theobald	Associate Director	San Francisco	28
Matthew Smizer	Project Engineer IV	San Francisco	9
Jose Rosado	Project Engineer IV	San Francisco	10
Myka Palentinos	Senior Administrative Support Specialist	San Francisco	3
Michael Maroney, PE	Senior Project Manager	San Francisco	13
Jacob Greenwood, PE	Project Engineer II	San Francisco	3
Elyse Gillis-Smith	Project Engineer II	San Francisco	3
Erin Sutherland	Project Engineer I	San Francisco	1
Marian Goebes, PhD	Program Manager Evaluation	Oakland	14
Farhad Farahmand, PE	Senior Project Manager	Oakland	10
Rupam Singla, PE	Project Manager	Oakland	5
Avani Goyal	Associate Project Manager	Oakland	6
Parul Gulati	Associate Project Manager	Oakland	6
Sara Zak	Associate Project Manager	Oakland	3
Shannenia Sumawan	Energy Analyst	Oakland	3
Sophia Hartkopf	Senior Program Manager	Rancho Cordova	3
Nicholas Dunfee	Senior Project Manager	Rancho Cordova	6
Robert Geltner	Project Manager	Rancho Cordova	2
Mayra Vega	Project Manager	Rancho Cordova	3
Yamini Arab	Associate Project Manager	Rancho Cordova	5
John Brown	Project Associate I	Rancho Cordova	3
Kristen Bellows	Marketing Associate	Rancho Cordova	4
Sean Jones	Energy Efficiency Field Specialist	Rancho Cordova	3
Akshay Narkar	Project Engineer III	Bakersfield	3
David Douglass-Jaimes	Project Manager - Building Science	Los Angeles	5
Kara Vega	Project Manager	Irvine	13

1.1.3 Resource Availability

TRC key team members will be available to work on County projects and will not be substituted or reassigned without the County's prior approval.

Additionally, our deep bench of engineers and support staff across the state of California position us well to respond to ebbs and flows of as-needed requests from the County. TRC ensures that projects are assigned to available staff with appropriate engineering expertise for the project and that projects progress in accordance with scheduled milestones.

1.2 ICI Engineers

ICI Engineers, Inc. (ICI) is a certified small business (SBE), disadvantaged business (DBE) and SBA-8a graduate, that has been successfully conducting business in California and other states for more than 20 years.

"Our mission is to provide world class service in design, engineering and management for projects, which create resource-efficient, reliable and productive solutions of value to our customers."

ICI's expertise includes mechanical, HVAC, plumbing, and electrical engineering design work that includes chiller plant and distributions, air handling units, electrical power and lighting, fire alarms, and low voltage data services. ICI has completed multiple projects in the design of K-12 schools (Los Angeles Unified School District) and higher education (Los Angeles Community College District), healthcare facilities (DGS State Hospitals, University of California Los Angeles, University of Southern California, Sharp Memorial, California Pacific Medical Center), transportation facilities (Los Angeles County Metropolitan Transportation Authority-LA Metro, county building facilities (City of Inglewood Library/Fire Station, Los Angeles County Consolidated Fire Protection, Los Angeles County ISD Headquarters), various US Air Force Bases, convention centers, and commercial buildings.

As professional engineers, ICI proactively works with facility owners, architects, developers, design- build groups, energy services organizations and State agencies such as California OSHPD and DSA. ICI Engineers is composed of senior professional engineers each with more than twenty-five years of design experience, and staff engineers that have more than ten years' experience. The firm consistently delivers quality, on time, on budget services tailored to meet our clients' needs.

ICI also provides peer review, commissioning, and value engineering services to ensure project code compliance and design integrity. We support project construction with supplemental services of cost estimating, constructability reviews, QA/QC support, MEP coordination, scope development.

Our engineering staff specializes in start-to-finish BIM and/or CADD design – from schematic, design development to construction documents. All engineering disciplines interact during each phase of a project to produce plans and documents easily discernible by the project team.

ICI provides these services from our corporate office located in the City of Walnut.

1.3 ICI Engineers Staff

Joe C. Ablay, PE

Mr. Ablay has extensive engineering design and commissioning experience that involves large and complex projects in transportation, commercial, institutional, industrial, and government facilities, including those of DGS. He is the founding president of ICI Engineers, Inc (ICI). Prior to founding ICI, he spearheaded major performance contracting organizations and developed several State facilities projects that have been very successful in energy savings, infrastructure assessment, modernization, and upgrades. He has profound experience in comprehensive facility energy audits, commissioning process development, energy conservation measures (ECM) development, system design, and energy analysis and modeling.

Years of relevant experience: 33
Education:

- BS, Mechanical Engineering, University of the East, Manila, Philippines, 1978

Licenses:

- Professional Mechanical Engineer, State of California #M29239

State of California Projects:

- CDCR CIW Steam Conversion Services
- CDCR Architectural & Engineering Services

Hugo Villanueva, PE

Mr. Villanueva has professional electrical engineering, project management, and construction experience relating to the electrical building industry. Over the years, he has designed electrical systems for low- and high-rise buildings, tenant improvement projects, manufacturing facilities, computer centers, airport operations, colleges, elementary and high schools, industrial facilities, healthcare facilities, and telecommunication facilities. Mr. Villanueva had contributed to educational master planning of infrastructure systems for several K-12 school districts and community colleges. His more recent work also includes electrical designs for several new healthcare, commercial, and transportation facilities.

Years of relevant experience: 26
Education:

- BS, Electrical Engineering, West Negros University, Philippines

Licenses:

- Professional Electrical Engineer

Certifications:

- Environmental Sustainability Professional, ENVSP-ISI
- National Society of Professional Engineers

State of California Projects:

- CDCR CIW Steam Conversion Services
- CDCR Architectural & Engineering Services

Dante Flores

Mr. Flores has over 30 years of professional electrical engineering design experience on projects such as K-12 & higher education building & facilities, hospitals, county buildings and other commercial facilities. Over the years, he has designed electrical systems for low- and high-rise buildings, tenant improvement projects, elementary and high schools and healthcare.

Years of relevant experience: 30
Education:

- BS, Electrical Engineering, Baguio City University, Philippines

Licenses:

- Professional Electrical Engineer

Certifications:

- National Society of Professional Engineers (NSPE)
- Institute of Electrical and Electronic Engineers (IEEE)

2 Philosophy and Service Model

TRC's philosophy and mission is to deliver sustainable solutions to the communities in which we live and work.

Since 1969, TRC has been a stable corporation with a core set of fixed business elements such as governance, employee retention, and project excellence and client value. Through these business practices, our goals are operational excellence and being the employer and consultant of choice.

Operational excellence: While TRC's mission is to deliver sustainable solutions to the communities in which we live and work, we walk the walk through our commitment to sustainable business practices that we measure Global Reporting Initiative (GRI) reporting framework. Further, TRC's reputation is built on the quality we deliver to our clients which is governed by our corporate general and practice specific Quality Management Policies, which establishes standards and internal controls. TRC's Health and Safety Management System include rigorous standards, training, protocols, and measurement that prioritizes safety for our employees and our clients. Finally, TRC has internal risk management check points and analysis to anticipate and mitigate risks to projects and employees. We require integrity and ethics training and provide an anonymous hotline to capture trouble before its impact.

Employee retention: At the core of our stability and success is our employees. We aim to hire, retain, and develop the right people. Employee retention is a key performance metric for TRC's leadership. To make TRC the employer of choice, we deploy the following initiatives:

- ***Career development*:** We match people's strengths and interests to the appropriate projects. We provide training and mentoring and financially support professional licensing. We set and support annual career goals and track progress to ensure employees are on a growth path. Through our succession planning, we establish a suite of project understudies who contribute to the leadership and excellence of each project.
- ***Culture*:** In our C-suite, we have a Chief People Officer whose focus is on optimizing people-centered activities, including employee attraction, retention, and development. Our employee-led Culture Committee fosters employee satisfaction, engagement, and ownership by endorsing shared values and beliefs to benefit our colleagues, clients, company, community, and climate.
- ***Diversity*:** Through our hiring practices and Diversity and Inclusion Committee, we aim to support equality for ALL — not one race, not one gender, not one age group, but ALL people (e.g., the needs of the black community, working mothers, and the LGBTQ+ community). True equality only happens when everyone is lifted up.

Project excellence/client satisfaction go hand in hand. Our project management structure, training, mentoring (understudy) approach ensures we systematically and seamlessly serve our clients with a team that is well versed in the project, has a relationship with the client, and upholds our technical and quality standards. We have a team of six-sigma belts and an

internal business analysis process (BEE – Better Energy Efficiency) that we apply best practices to streamline and optimize processes. Through our national practice, we can cull best practices and innovation from across the country as well as from participating in though leadership and technical boards, committees, and forums. TRC strives to continually create value for our clients.

This stability serves as a framework for our ability to respond to economic, policy, and client changes. However, we also pride ourselves on nimble and dynamic. Within this framework, we have the ability to respond to and change with economic, industry, pandemic, environmental policy, and other influences, of which, we have experienced over our 50 years in business.

Our relentless commitment to quality is one of our core values. Quality is engrained in our company culture, starting with our leadership team and carried through all of our employees. We foster a culture of excellence by encouraging mutual respect and teamwork, while maintaining sharp focus on meeting or exceeding our customers' expectations. We intentionally and strategically plan for and manage quality, holding our employees and subcontractors individually accountable for the quality of their work. TRC's tiered quality organization provides day-to-day support and expertise within each business area to help each achieve their quality goal and objectives.

Figure 1: TRC Quality Management Program

TRC's commitment to oversight, QA, QC, improvement, and planning is reflected in our Value Statements and Quality Management Plan. Our QA/QC processes work to proactively prevent errors before they occur and verify that project quality is consistent and of the highest standard.

To ensure quality and consistency, TRC will assign a TRC project manager to each work authorization and require that subcontractors use shared templates, tools, and QA/QC processes with the TRC team. All subcontractor deliverable contributions will undergo TRC technical review and copy-editing prior to submission to DGS.

TRC provides significant value to clean energy projects by representing the County's interests throughout the entire project lifecycle including planning, design, construction, and close-out phases. Here are the TRC team key attributes that add value for the County:

1. **Expertise and Experience**: The TRC team has specialized knowledge and experience

identifying and implementing clean energy projects, ensuring that technical and regulatory requirements are met. Our involvement increases energy and emission savings while lowering project costs by including utility incentives.

2. **Project Oversight**: We provide technical and independent oversight of the contractor's work, ensuring that the project is completed on time, within budget, and delivering the expected outcomes.
3. **Risk Management**: Our involvement in clean energy projects help identify, assess, and mitigate risks throughout the project lifecycle, reducing the likelihood of costly delays and issues. We ensure that the project complies with all relevant regulations and standards, avoiding potential legal and financial penalties.
4. **Quality Assurance**: The TRC team ensures that all work is performed to the highest standards and that materials and workmanship are best practice and qualify for any utility incentive requirements.
5. **Cost Control**: We monitor project costs and provide cost-saving recommendations, helping to keep the project within budget.
6. **Technical Support**: We provide technical support and advice to the County to make informed decisions and resolve technical issues that arise during the project.
7. **Coordination and Communication**: The TRC team facilitates effective communication and coordination between all project stakeholders, ensuring that everyone is aligned and working towards the same goals.

Overall, the TRC team acts as the County's technical advocate, ensuring that projects are executed efficiently and effectively, delivering the expected energy and emission savings. We ensure the County's best interests are served all aspects of the project.

2.1 Service Model

TRC's service model is a customer service-oriented consulting firm to help our clients solve their toughest challenges. Our team is known for solving our clients' most complex challenges—from initial concept to operation—with an owners' mindset. We accomplish this by combining strategic planning and extensive field experience to create meaningful impact and real-world solutions.

TRC's Advanced Energy group knows that our greatest asset is our employees and their delivery of solutions for our clients. Our solutions leverage our diverse and deep energy expertise combined with our culture of innovation and collaboration. TRC's expanded team of professionals offer our clients diverse and complementary skills in program support, engineering, planning, project development and delivery, and construction. Each of our core competencies builds upon and strengthens the others, resulting in a high-value and cost-effective approach to achieving deep energy efficiency in a wide range of building types.

This diversity allows TRC to work with in a multi-stakeholder environment and excel in an array of energy areas including energy engineering, project implementation, M&V, renewable energy, microgrid engineering, and procurement.

We provide advanced energy services for integrative, across-the-meter management, through energy efficiency, demand response, and distributed energy resources. TRC has a deep bench of engineers, as well as sustainability, energy, and building science subject matter experts (SMEs). TRC uses our engineering and program-solving skills to uniquely serve each client, as demonstrated by a wide range of projects TRC staff are currently engaged in.

Services include, but are not limited to, energy audits, technical project review, project development, project implementation, Owner's Engineer services, contractor management and oversight, emerging technologies research and demonstration, codes and standards support, program design and implementation, and program evaluation.

The TRC team is excited to provide all the services requested by the RFP including:

- 2.1.A - Procurement/Request for Proposal (RFP) Management and Vendor Selection
- 2.1.B - Contracting support
- 2.1.C - Design Review and Assistance
- 2.1.D - Technical Construction Support
- 2.1.E - Commissioning (Cx) Verification and Project Closeout
- 2.1.F - Asset Management
- 2.1.G - Data Collection and Analysis
- 2.1.H - Renewable Energy Evaluation
- 2.1.I - Reporting and Communication

In addition to the core services requested in this RFP, the TRC team will also provide added value by strategically assisting the County to increase realized energy savings and emission reductions. This will ensure the outcomes of project development, design reviews, commissioning plans and other technical deliverables throughout the process are congruent with the County's needs. With continuity from project inception to closeout, we can keep the focus of the County's energy projects on energy savings, emission reductions, and cost effectiveness.

Details of our overall approach and discrete milestones are included in Tab 3 – Project Experience below.

2.2 Project Plan

The TRC team is pleased to present our qualifications to provide clean energy engineering and consulting services to the County. Our team is poised to offer robust clean energy engineering services for projects across the County's portfolio of buildings.

2.2.1 Statement of Minimum Qualifications

Has Proposer has been providing similar services for a minimum of four (4) years within the last seven (7) years?*

☒ **YES –** TRC has been providing these services for over 30 years.

*Response required

Account manager has a minimum of two (2) years of experience within the last five (5) years in providing account services?*

☒ **YES –** Mr. Jadhav, our proposed Account Manager and Lead Engineer has over two years' experience, within the last five years, leading these services for other clients.

*Response required

Please confirm your firm is registered with System for Award Management (SAM)*

SAM.gov

☒ **YES -** TRC Companies, L.L.C., which includes TRC Engineers, Inc., is registered with SAM.

*Response required

What is the registered Business Name and Unique Entity ID (UEI) No.?*

☒ **YES –** Our registered business name is TRC Companies, L.L.C.
Our UEI is 054183884.

*Response required

2.2.2 Project Approach

The TRC team, as the County's technical expert and representative, plays a crucial role in clean energy projects. Clean energy projects are designed to improve energy efficiency and reduce operating costs, and their success is based on performance that delivers the expected energy savings, emission savings, and environmental or comfort improvements.

This section outlines how TRC *approaches* the RFP tasks and adds value to clean energy projects. For greater detail on all these steps, please refer to Section 2.2.4, Scope of Work Details.

8. **Procurement/Request for Proposal (RFP) Management and Vendor Selection**: The TRC team assists in defining the project scope, objectives, and performance metrics of clean energy projects. We help the County understand the potential energy savings, emission reductions, potential costs, and the technical feasibility of proposed measures. We evaluate the technical proposals submitted by developers, contractors, or ESCOs, to ascertain that the proposed energy conservation measures (ECMs) are realistic,

achievable, and based on sound engineering principles.

Additionally, we assist in the procurement process, helping to develop request for proposals (RFPs) that include performance specifications and tie the contractor or implementor to expected outcomes.

During the bidding process, TRC will attend all RFP meetings, review and respond to bidder RFIs, evaluate and tabulate all bids, and recommend the most qualified proposal.

9. **Contracting Support**: The TRC team assists with contract review and vendor negotiation. We provide input on the ensuing contract, ensuring that the terms and conditions protect the County's interests and that performance specifications are included, and performance guarantees are clearly defined.

10. **Design Review and Assistance**: This is a very important step and where both the County and TRC can make a difference in the project savings, cost, and outcomes.

    Before a project can be designed or reviewed, it must be developed. TRC provides a variety of project development services, including conducting an energy efficiency, electrification, and Distributed Energy Resource (DER) assessment of the facility to identify potential projects. This approach is helpful to prioritize projects, sites, and possibly bundle projects across facilities. Alternatively, we can review a developer/ESCO/vendor's project development and proposal. This could involve several steps such as preliminary technical review, on-site visit and kick-off meeting, and project development support.

    Following are TRC's steps once the project is developed and a developer/ESCO/vendor's begins design.

    During the developer/ESCO/vendor's design phase, we can review the design documents at any or many stages, 30%, 60%, 90% and/or 100% or Issued for Construction. ICI Engineers, as part of the TRC Team, has mechanical, electrical, and structural engineering and design expertise. Their Professional Engineers review for code compliance, feasibility, constructability, and other technical aspects of the project to ensure they meet the project requirements and industry standards. Each design review is accompanied by a back-check for inclusion of our comments.

    Our approach is to use the early design reviews, the 30% and 60 % reviews, to maximize the energy and emission reduction strategies and equipment selections by making suggestions that improve the performance of the ECMs. If needed, we have deep experience with modeling projects for performance improvements including cost, energy and emission reductions, comfort and environmental performance, and financial benefits. As the primary firm for IOU and CPUC energy measure development, our member participation in the CalTF, and over 30 years of energy project qualification and development; The County will benefit from our deep modeling experience.

If utility incentives are not included, we can assist the designer with including equipment and/or strategies that conform to the utility incentive requirements. Thereby, we can assist the County with applying for and receiving utility incentive that can lower the initial cost.

The TRC team will also review the construction steps and logistics. As the County's technical representative, we incorporate your, and other stakeholders, concerns and desires into the project delivery process.

11. **Technical Construction Support**: The TRC team will provide technical support the County during the construction and installation of ECMs, ensuring that the work is performed according to the design and performance specifications and quality standards. The level of support will vary with project size and/or complexity. At a minimum, we will review and respond to Request for Information (RFIs) and submittals from the contractor. We will attend all project meetings, virtual or on-site. Provide technical input and support to the County's Project and Construction Manager. If applicable, we will visit the site to monitor progress, inspect work, and view other details. As always, TRC will produce and distribute notes from meetings and site visits.
12. **Commissioning (Cx) Verification and Project Closeout**: The first step is to review and comment or accept the project's commissioning plan. The TRC team will oversee the commissioning process to ensure that all systems are properly installed, calibrated, and functioning as intended, according to the project and performance specifications. Once approved, we will issue a verification report affirming the commissioning is complete. This signals that the project is close to completion.

    The TRC team will review the submitted M&V plan and verify the savings calculations. We have extensive M&V experience, capabilities, equipment, and processes to ensure that the energy savings are accurately measured and reported, either short- or long- term.
13. **Asset Management**: Our M&V approach facilitates long-term asset management with real time information about asset performance. We can monitor energy use, and other functional data, for discreet assets. We can produce an annual report on the project or asset as needed.
14. **Data Collection and Analysis**: The TRC team has deep experience analyzing energy use and load shapes to visualize energy use patterns using 15-minute interval data. We can assist obtaining interval data from California utilities. Historic energy use analysis is best understood through visualization. Our approach is to show when energy is used and gather ideas from building operators about how to reduce energy use.

    Our building modeling experience leads the industry, as evidenced by our measure development work for both IOUs and POUs. Measure development requires countless runs with slight variations (assumptions) to determine deemed savings. TRC is the

California leader in measure development and have two ASHRAE Building Energy Modeling Professionals in staff. We are fluent in all major energy modeling software.

15. **Renewable Energy Evaluation**: The TRC team has performed hundreds of renewable energy evaluations for the California IOUs, as well as PUOs, RENs, Council of Governments, etc. We understand how to properly size renewable energy assets, including energy storage for maximum energy cost savings through time-of-day load shifting with energy storage and opportunities for selling excess solar energy.

    Renewable energy analysis requires knowledge about where and how to place renewable energy assets. Often, we incorporate electric vehicle charging and other new loads into the analysis.

16. **Reporting and Communication**: TRC provides detailed reports and regular communications on all of our projects. We tailor the reports and communication to our clients' needs. This extends to project stakeholders and project communication to regulatory boards and surrounding communities.

    For sustained project success, we provide in-house training for the facility operators and managers on the assets and operational strategies. After project completion, we provide ongoing support to ensure that the project continues to perform as expected, delivering the anticipated savings.

By providing independent oversight and technical expertise, TRC's services help ensure the success of clean energy projects, maximizing energy savings and financial returns for the County.

2.2.3 Scope of Work Details

The RFP Section 2 outlines a scope of work that reads like Owner's Engineer (OE) services. Those services are TRC core offerings, and we are intimately familiar with the process as OE for clean energy project oversight and closely mirrors our approach and process.

RFP Section 2.1.A - Procurement/Request for Proposal (RFP) Management and Vendor Selection

TRC develops RFPs for procurement of project developers, vendors, contractors, suppliers, and others involved in clean energy projects. TRC will support and assist the County with technical and contractual support for procurement of vendors and with the selection process. We include performance specifications, as outlined in Section 2.2.3. The thoroughness and detail of the RFQ/RFP is essential to ensure high-quality and effective responses from potential vendors. We will assist the County in the development of a vendor list to receive the solicitation.

When the RFP is released, we will be available for questions and can provide support during the RFP period. TRC will respond to requests from potential implementation proposers with special attention to the key considerations. If complexities arise, we identify the appropriate

SMEs to resolve questions and provide clarifications. TRC will compile documentation detailing comments and feedback from the lead reviewers and SMEs. We will present findings, facilitate discussions, provide advice, and support to the County team throughout the RFP review process.

TRC will act as the technical advisor and provide subject matter expertise throughout the question, comment, formal response, and final submission phases of the RFP solicitation. TRC will compile all submission packages and develop criteria to evaluate the responses and capability to meet project requirements and provide the County with a review of vendor capabilities. We will support and assist the County with RFIs from vendors during RFP process and form custom responses as needed. TRC will provide technical support to the County throughout the formal RFP release and submission process, including compilation and quality assurance and quality control of responses to vendor questions and comments.

Once proposals are received, we will review the proposals to determine any technical omissions or exemptions and review any performance guarantees. We will conduct an initial review to flag unqualified responses, and qualified responses are reviewed further. TRC will check the responses against the requirements of the RFP for compliance. We have found it helpful to develop an RFP evaluation matrix to normalize the vendor responses and compile a list to identify preferred vendors. We place particular attention on the viability of vendors' track record, reliability, suitability, and performance of technologies. Lead and supporting engineers will present findings, facilitate discussions, interview contractors/suppliers, and provide advice and support to the County team throughout the RFP review and contractor selection process. We will also be available for interviews with potential vendors.

RFP Section 2.1.B Contracting support

Upon vendor selection, the TRC team ensures that the contract language aligns with the project specifications and the selected vendor's proposal. This document will serve as the basis for construction; therefore, we will support the County during the negotiation process to ensure adjustments do not impact the quality of the solution. Our primary role in development of the contract is providing technical assistance for the energy improvements. This includes how the vendor calculates cost savings and energy production and storage values.

Defining how financial calculations will be performed is a key component of project approval and should be included in the contract. TRC has calculated life-cycle costs, net present value, ROI, internal rate of return, and savings-to-investment ratio, and/or simple payback for thousands of projects. The appropriate metric(s) for any given project is highly dependent on the project goals, context, and timeline.

This is important since it may be best to include some submetering as a component of the project. The basis for measurements and calculations are the core of the M&V plan. We verify actual savings and production values during M&V.

RFP Section 2.1.C Design Review and Assistance

Design review and assistance starts with developing the clean energy project or reviewing a project proposed by a vendor.

Preliminary Assessment Review

TRC has vast experience with assessing energy efficiency, water, and DER projects. We have performed several thousand technical reviews of IOU and POU custom incentive applications over the past 20 years. We know how to review the economics of the individual measures, and the entire project, for credibility.

The applications we have reviewed for IOUs and POUs involve energy projects for small and large office facilities, industrial and manufacturing process efficiencies, light and heavy industry, warehouses, agriculture, schools and universities, and data centers. TRC reviews energy efficiency and DER measures associated with participants' applications to ensure they are accurate and follow program guidelines. The review includes evaluating whether the estimated energy savings are reasonable and calculated using accepted engineering principles, as well as verifying that the information in the application matches site conditions. Using the application's M&V plan, TRC accurately quantifies savings. Upon project implementation, TRC reviews the M&V data to ensure M&V plan compliance, expected savings achievement, and correctly calculated incentives.

Since 2013, TRC has inspected and validated over 5,200 mechanical and lighting projects that totaled 420 million kWh in electricity savings and 100 MW of total demand reduction. Mechanical energy projects included but were not limited to agricultural pump system overhaul, air compressor retrofits, electric injection molding, blower variable frequency drives (VFD), wastewater controls, carbon-dioxide-based demand control ventilation, carbon monoxide sensors for parking garages, chilled water pump VFDs, computer room air handling unit retrofits, constant air volume to variable air volume conversions, high-efficiency chillers, HVAC occupancy sensor thermostats, economizers, data center server virtualization, pneumatic to direct digital controls, pump controls, vacuum pumping systems, and window films and glazes. We have inspected and validated lighting projects including daylighting controls, energy management system lighting controls, daylighting systems with dimmable ballasts, interior and exterior HID retrofits, interior and exterior LED fixtures, LED refrigerated case lighting, and interior linear fluorescent retrofits.

The assessment will include evaluating the EE and DER measures and/or whole building economics and financing options for energy efficiency (EE) measures, as well as project feasibility and constructability.

On-site Kick-off meeting

An on-site kickoff meeting is important with all pathways for project development; if a project proposal is submitted by a developer, ESCO, or product vendor, OR, if the County and TRC develop the project.

If a project proposal has been submitted, before the on-site kickoff meeting, we will evaluate key project risks and determine specific milestones. TRC will also identify potential gaps in

the project execution plan. Also prior to the on-site kickoff, we will conduct a historical energy use analysis. That analysis will be shared with all at the kickoff meeting to foster ideas about where and how energy and emissions can be saved.

The project developer/ESCO/vendor, the County, facility representatives (plus other stakeholders if applicable), and TRC conduct an on-site kickoff meeting to discuss the facility(s) and system(s) slated for further investigation. Important items to cover are the facility's needs and expectations, facility and project information, as well as roles and responsibilities for all parties.

The kickoff meeting provides an opportunity to review findings from the preliminary assessment (if any) and discuss any open items or questions. During the site visit, we survey the building configuration; examine the function, systems, and special characteristics; review construction date(s); and determine meter locations and the areas they serve. In addition, the site visit includes other activities, such as:

- Walk-through of the facility to collect/confirm information on all of the major energy using systems, including those for further investigation. Typically, we focus on major comfort and process HVAC systems and the associated control systems. For lighting, we spot-check/sample representative fixtures.
- Identify daily and annual building occupancy patterns, including seasonal and holiday schedules and operations.
- Understand current or planned projects or changes in building use that will affect energy use and equipment operation.
- Identify specific energy projects that facility personnel are interested in pursuing, as well as highlight underlying maintenance issues.
- Discuss the historical energy use profiles and past energy projects with the staff.
- Review operations with maintenance personnel to identify problems that might contribute to the inefficiency or ineffectiveness of the systems.
- Discuss asbestos and other hazardous materials issues that could require significant remediation costs.
- Collect reports, drawings, specifications, and equipment literature not provided prior to the site visit.

To ascertain current infrastructure requirements, we work with the building's operations team to gain a working knowledge of their processes.

Project Development Support

TRC will provide the County with technical support during project development. This begins with the On-site Kickoff meeting as outlined above. During the site visit, our Project Engineer collects valuable operational insights from the facility operations and maintenance staff that help inform the potential projects. Collectively, we develop a list of potential projects at the conclusion of the on-site kickoff meeting.

From there, the TRC team can develop projects and present the energy and cost savings, project installation costs, and other benefits. This energy and DER audit can cover the entire facility and identify any potential projects and/or focus on certain systems that are at end-of-life or scheduled to be replaced. The scope and depth of the TRC audit is determined in conjunction with the County.

Our approach to project development as an Owner's Engineer, is to work with the developer/ESCO/vendor as they develop the potential projects. This helps to save time and effort. The developer/ESCO/vendor is responsible for establishing the energy savings and production values, along with O&M impacts. TRC will review those calculations and provide feedback to the County about project viability.

The County can determine the level of effort and rigor applied to TRC's review of the developer/ESCO/vendor projects. TRC can review from a high-level using typical project metrics or dive deep into the provided calculations. We have extensive experience with project reviews. TRC knows how to work with the developer/ESCO/vendor on reviewing and possibly adjusting project calculations. Further, we check that the project is constructable, conforms to any incentive program requirements, and has accounted for O&M impacts.

After TRC approves a project's calculations, we develop comprehensive performance specifications so that energy projects are installed and operate correctly for maximum performance and operational efficiency. While most projects benefit from normal system commissioning, ensuring that the equipment is operating as designed, additional specification requirements are needed to ensure peak performance – a critical component of clean energy projects to deliver the energy savings.

Performance defines energy project success. Energy efficiency projects are more than just equipment replacement, they must deliver energy savings to be successful. With energy projects, we recommend performance specifications to assure the project delivers the expected energy savings. Performance specifications document the operational requirements of a project and how the final project should function after installation. We can incorporate any County preferences for certain brands or models into the performance specifications. Based on our experience, this enhances the procurement of energy-efficient equipment.

When implemented within a holistic approach, performance specifications combined with M&V (pre- and post-installation) commissioning, operations and maintenance staff training, and an energy performance monitoring system provides the basis for consistent and persistent energy project performance and sustained energy and emission reductions.

Once the projects have been developed and move into the design phase, TRC can review the design drawings generated by the engineer of record. This can occur at any or all of the design stages of 30%, 60%, 90% and/or 100% or Issued For Construction stamped engineering design stage.

TRC will coordinate with the County to develop the project execution schedule and the project implementation roadmap, providing an overview and guide to key project tasks, projected timeline, and other critical items.

RFP Section 2.1.D Technical Construction Support

TRC will support and assist the County with managing the contractor during project execution. We will perform technical coordination with the contractor to ensure alignment of design, permitting, quality, and project requirements.

Our team will visit project sites before measure installation to verify existing conditions have not changed, and to install any data collection or metering equipment for pre-installation measurements (if not included in the developer or contractor's scope). We will also collect any needed site-specific requirements. We repeat the site visit after project implementation to verify replacement equipment and operating conditions.

TRC will coordinate with the contractor on construction activities, sequencing, and review and respond to construction RFI and submittals. Depending on the scope, TRC may hold regular status meetings with the contractor and stakeholders to ensure project success. TRC can witness the functional test(s) and commissioning, and/or review all functional testing and commissioning documentation.

The final step of a clean energy project is training the facility's O&M staff. TRC will ensure that the O&M staff receive effective training and be available for on-going refinements.

TRC can provide other construction period support depending on the project's complexity and DGS requests. Together with DGS, TRC will address project execution challenges.

RFP Section 2.1.E Commissioning (Cx) Verification and Project Closeout

Commissioning verification starts with review the contractor's draft commissioning plan, and provide comments. If needed, we will distribute and coordinate internal review of commissioning documents and provide technical oversight. Once approved, the contractor's functional testing, M&V, and commissioning plan become the basis for project acceptance, provided the project has not significantly changed during construction.

We will ensure that all RFIs, equipment submittals, and other changes in the project are incorporated into the commissioning plan, as needed.

During the contractor's commissioning, we observe and monitor to validate the accuracy and provide overall quality assurance. Once completed, we review and approve contractor's draft and final commissioning report.

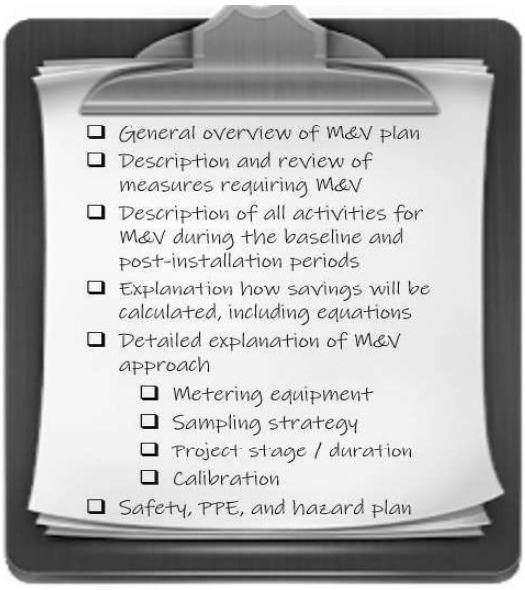
Measurement and Verification (M&V) is an important element of clean energy projects, and can be used in a short-term approach as a portion of the commissioning plan. It can also be a long-term strategy for verifying savings persistence, and/or on-going equipment operation reviews and re-commissioning.

TRC has direct experience developing and executing M&V plans that include the contents provided in Figure 1. We consider the M&V plan to be the most critical element of the M&V process. Identifying the correct methodology for determining energy and peak demand savings is critical during the M&V planning phase to gain the highest value and savings certainty from M&V data that may be collected on-site for months.

We will perform an engineering desk review and preliminary analysis of project savings to determine the level of precision required to validate each project and develop a M&V plan tailored to program requirements and budget.

For large single-building or multiple-building projects, our approach is to perform strategic sampling to reduce the overall M&V cost, efficiency use time and resources, without sacrificing accuracy and integrity of savings.

Figure 2: M&V Plan Contents



All M&V plans should follow IPMVP protocols. IPMVP options vary considerably in cost and their approach to the level and duration of the measurements. For example, Options A and B use short-term measurements, while Option C may require longer-term measurements such as 12 months of utility bills and Option D could require calibrated simulation. As shown in Table 3, TRC will select the most appropriate IPMVP option based on each project's unique characteristics. Generally, we strive to evaluate projects under Options A or B. However, complex projects with multiple measures that interact with each other may require Options C or D.

Table 3: Characteristics to Inform Appropriate IPMVP Option(s)

Project Characteristics	A	B	C	D
Only one measure included in scope	X	X		
Multiple measures with little or no interaction	X	X		
Multiple measures with easily estimated interaction impacts	X			X
Comprehensive work scope that impacts most energy end-uses			X	X
Stipulation of parameters is less costly than measurement	X			X
Interaction impacts are difficult to estimate or measure			X	X
Behavioral, operations, or maintenance-type measures			X	
The cost to assess measures individually is inexpensive	X	X		
The cost to assess measures individually is expensive				X
Total facility performance needs to be assessed			X	X
Expected savings are less than 10% of the utility meter	X	X		
Significance of some energy-driving variables is unclear		X		
Correlations exist between energy use and independent variables			X	
Long-term performance assessment is needed	X		X	
Baseline data or post-retrofit is not available or is unreliable				X
Stipulated parameters will not significantly impact overall savings	X			
Submeters exist to isolate the energy use of systems		X		

Duration of M&V depends on the M&V option selected. Typically for Option A and B, with constant load we recommend two weeks of pre and post case measurements. However, if the load is variable due to weather impacts or business operations, we recommend increased duration to capture the variances, typically between two to six months. For Option C, we recommend one year of pre- and one year of post-case measurements.

RFP Section 2.1.F Asset Management

TRC has established asset management systems for other clients. Asset management systems can be very simple, a listing of assets with pertinent information, to complex systems that include

using the system as an energy management tool. The TRC team has experience with a wide range of asset management systems.

Further, we can apply our M&V skills and equipment to augment the asset management system. We can establish an energy monitoring system for major assets and/or systems of particular interest. This can lead to continuous commissioning and the ability to improve asset efficiency.

RFP Section 2.1.G Data Collection and Analysis

The TRC team has deep experience analyzing energy use and load shapes to visualize energy use patterns. We review all available utility data, including data for on-site generation, cogeneration, and energy storage.

We also tabulate the energy use and perform benchmarking using ENERGY STAR®'s Portfolio Manager, we will obtain at least 12 months of utility bills for each account at the facility. To visualize the annual energy use profile, we will plot the monthly use and load profile for the building(s).

Historical energy use analysis provides insight into how, and when, a facility uses energy. Our approach is to graphically display that information so that users can visualize the energy use at various times and understand how their facility uses energy. This inevitably leads to ideas on how to reduce energy use.

We utilize a variety of tools to convert the data and analysis into an effective visualization. If there is additional energy use information (other than from the utility) we use tools such as Universal Translator 3 (UT3), Energy Charting and Metrics (ECAM) Tool, and more, to graph and analyze energy use patterns. Where individual systems (rather than whole buildings) are the focus of the analysis, TRC has experience using existing submeters, building management systems, or temporary data loggers to collect the data necessary to analyze energy use patterns. TRC has an inventory of wireless mesh connected meters for light, temperature, humidity, and power. We can access the data for each of these remotely to avoid repeat trips to the site.

RFP Section 2.1.H Renewable Energy Evaluation

We have deep experience with renewable energy evaluation for facilities and buildings. We include a review and recommendations for adding solar and/or storage to our standard energy audits. We also have the capability to evaluate larger renewable energy applications for energy export or community microgrids.

Site Assessment: Each solar and storage assessment starts with a site interview to reiterate the assessment process and discuss items related to electrical infrastructure equipment specifics, equipment controls, and strategies. At the end of the discussion, we will begin the assessment, guiding the site contact to specific areas or equipment of interest. During the visit, the TRC team will evaluate existing conditions and locations for the solar panels and battery storage. Based on the information gathered during the site assessment, the TRC team will create the facility's load

profile and solar and battery energy storage system, sized for maximizing the financial return from self-generation and load shifting.

Equipment Siting Assessment: To assess potential battery energy storage or solar equipment locations, we will gather the following information:

- Details (e.g., size and type) of existing battery energy storage or solar systems or backup generation.
- Approximate available area using Google Earth and as-built drawings, noting any available pad mounting locations for battery energy storage systems.
- Solar siting details (e.g., carport, rooftop, other) and specific details on the roof type (e.g., flat, pitched, surface material, condition, age), azimuth of roof, and photos of potential locations. We will note any major shading obstructions, space constraints, slope issues, fire code setback, and/or wind concerns.
- Nearest main or sub panel to the potential solar and/or battery energy storage system.
- Identify any potential community concerns about safety, sound, or aesthetic issues.

Determine Utility Bill Savings Potential: The solar panels generate power during the day, resulting in energy bill cost savings. Depending on location, any excess power generated that is not used by the building can potentially be sold back to the grid through net-metering or used in another fashion. Another financial benefit of installing solar and storage is the ability to load shift through discharging the storage during periods of peak usage and high demand costs to reduce energy cost. The storage batteries are re-charged by the solar system, further reducing energy costs and emissions associated with grid power. We utilize 15-minute interval data to efficiently determine utility bill savings potential using utility data analysis software, but our mastery of determining load-shifting potential extends beyond using interval data.

The TRC team is proficient with Energy Toolbase, the primary analysis tool for sizing and analyzing the interactions of solar and storage projects. To obtain the best results using this software, we will use three years of 15-minute interval data for each facility, then upload it into the system to generate a load profile reflecting a peak winter and summer day. We will use the resulting load profiles to size solar and battery energy storage systems for each site.

We typically combine Helioscope with Energy Toolbase software to identify solar asset locations and optimally size the battery energy storage assets, respectively. Helioscope models the systems' proper spatial constraints and solar resource availability and provides accurate typical meteorological year three-dependent annual system generation. The Energy Toolbase model (with inputs from Helioscope) provides robust battery energy storage system modeling capabilities that allow for accurate asset sizing and dispatch strategy modeling to pair the most optimal and economically feasible battery energy storage system with a solar system.

Figure 3 is a sample output for the impact of solar and storage at a site. The final report on each facility will include solar and storage measures along with the energy efficiency measures for a holistic view of energy savings opportunities at each facility.

Figure 3: Sample Energy Toolbase Report

RFP Section 2.1.I – Reporting and Communication

As a consulting engineering firm, we provide our clients with detailed reports of findings, recommendations, and projections. These can take many forms and granularity depending on the clients' needs. At a minimum, we provide monthly project reports.

We understand that with most clean energy projects there are multiple stakeholders, including building personnel, many levels of management, and sometimes the surrounding community. We know that all these stakeholders need regular reporting on projects. We also assist our clients with repot materials and/or actual presentation to Boards, community groups, and other public stakeholders.

As stated in several sections above, we include operator training as part of the analysis, construction, and operations of the clean energy assets. We can provide that training in-house and also suggest outside resources for particular subjects.

Additionally, TRC can provide project management services throughout the project phases and for multiple project progress to the County and all stakeholders. We develop and continue to refine a project implementation roadmap that serves as a living document that we will update and revise as the County advances the project and adds projects. The roadmap will serve as a key communication component and will track and manage and track multiple projects' progress and expectations.

3 Project Experience

TRC's team of advanced energy professionals has expertise in microgrids, BESS, project management, engineering design, testing and commissioning, technical construction management, and compliance solutions for complex projects involving energy efficiency and distributed energy resources (DERs). The firm's energy experts hold numerous energy and sustainability certifications and dozens are licensed as professional engineers.

3.1.1 Firm Qualifications

To fulfill the County's clean energy project needs, as shown in 1.1.1 Key Personnel Staff, we offer a team with multi-year experience in energy engineering, consulting, and management over many project types and scopes of work. Our vast experience allows us to identify any project concerns before they can impact project schedule, cost, or outcomes. The key personnel have all worked on the projects included in this Tab 3, and our references will attest to our claims of superior quality, responsiveness, and value.

There is no learning curve with the TRC team.

Table 4 lists the tasks included in the RFP and TRC's project qualifications. Our key personnel have worked on these and many more clean energy projects.

Table 4: Summary of Qualifications for Clean Energy Projects

Project Qualification	RFP and Vendor Selection	Contracting Support	Design Review & Assistance	Technical Construction Support	Cx Verification	Asset Management	Data Collection & Analysis	Renewable Energy Analysis	Reporting & Communication
CDCR CIW Steam Conversion Services			✓	✓	✓		✓		✓
CDCR Architectural & Engineering Services	✓	✓	✓	✓	✓	✓	✓	✓	✓
SFPUC Energy Engineering Services	✓	✓	✓	✓	✓		✓	✓	✓
LA Metro Energy Management Program	✓	✓	✓	✓	✓	✓	✓	✓	✓
SoCalREN Energy Engineering Services	✓	✓	✓				✓	✓	✓
SCE Partnership Programs	✓	✓	✓	✓	✓		✓	✓	✓
Verizon Energy Services	✓	✓	✓	✓	✓		✓	✓	✓
City of Chula Vista Energy Services	✓		✓	✓	✓			✓	✓
City of Newport Beach Energy Services	✓	✓	✓	✓	✓		✓		✓
LADWP Energy Services	✓		✓	✓	✓		✓	✓	✓

✓= Relevant project experience

TRC's best demonstration of Owner's Engineer experience is with the CDCR, for which we currently provide Owner's Engineer services addressing multiple California Corrections Facilities. The CDCR scope of work closely mirrors the scope in this RFQ. We provide technical support to manage the ESCOs and ESPCs for energy projects at five CDCR facilities, providing exceptional insights into correctional facility systems, equipment and operations. For the DGS, we will similarly deliver high-quality, comprehensive and cost-effective Owner's Engineer services to the wide range of needs addressed in the RFQ.

TRC has teamed with ICI Engineers, Inc. (ICI) to further expand the breadth and depth of our expertise and skills as well as geographic coverage. ICI has been a dependable partner in past projects, including our Owner's Engineer contracts with the CDCR.

California Department of Corrections & Rehabilitation (CDCR)
Architectural & Engineering Services
Sacramento, CA ● Nov 2021 - Present

TRC is the CDCR Owner's Engineer for energy projects at California State Prisons. As CDCR's trusted advisor, TRC provides design review, incentive assistance, inspection services, and overall technical management of the design-build process, ensuring the ESCO completes the project in accordance with best practices and outcome expectations. TRC reviews all documents submitted by the ESCO, including:

Task 1: Site Investigation

- Conduct a site investigation to verify conditions of existing facility conditions and obtain information as necessary to support the energy efficiency project.

Task 2. Design Phase Review

- Review the IGA to confirm the proposed work is code compliant and feasible.
- Review the developed drawings showing the proposed improvements.
- Submit an electronic file of design review feedback and an excel document tracking all the comments to CDCR.

Task 3. Technical Support for Construction Management

- Provide technical review of contract submittals (design and construction documents, test plans and reports), Quality Control documents, As-Built documents, and submittals.
- Provide technical review of Contractor schedules and status reports.
- Provide technical review of any substitutions of materials and other change order requests

Task 4: Technical Support of Construction and Commissioning

- Attend project meetings with CDCR during construction for any needed Architectural/Engineering clarifications. Provide assistance with cost estimates, change orders and/or proposed change orders submitted by the ESCO.

- Review and approve additional submittals, additional shop drawings, Operations and Maintenance Manuals, and other submittals for compliance with Construction Documents
- Review and approve the ESCO's commissioning plan. Observe and monitor select Functional Performance Tests to provide overall quality assurance. Review and approve ESCO's draft and final commissioning report.

Task 5: Incentive Review and Coordination

- Provide incentive review and coordination as needed during the duration of the project including changes to the project scope.
- Notify CDCR of any potential changes to incentive levels when providing response to Construction Documents, RFIs, Change Orders and/or submittals.

TRC's budget over the years was approximately $1,175,000, including ICI Engineers.

California Department of Corrections & Rehabilitation
California Institute for Women (CIW)
Steam Conversion Services

Corona, CA ● 2019 - 2020

TRC served as the CDCR Owner's Engineer on an ESPC contract for a major mechanical system retrofit project to replace a central boiler system to a point-of-use boiler system at the CIW prison in Corona, California. This CDCR qualification is in addition to the Owner's Engineer work above and highlights our design review work.

TRC had overall technical oversight of the ESCO and was responsible to:

- Review 30%, 60% 90% and Final Design drawings for:
- Mechanical, electrical, plumbing, and structural designs, calculations, and specifications.
- Compliance with State Building Codes and Fire Marshal.
- Compliance with CDCR's Design Criteria Standards.
- Perform back checks of the design documents to confirm that comments are resolved.
- Review all product and material submittals.
- Respond to ESCO Requests for Information (RFIs).
- Attend bi-weekly construction meetings.
- Attend conference calls with CDCR.
- Provide site visits to inspect construction activities and ensure compliance with contract and design documents and codes.

Our timely design review work for multiple iterations kept the project moving toward implementation. Through our design review work we also guided the contractor to develop industry standard design documents, improve the quality of their submittals, and we identified code issues for correction.

During a site inspection, TRC identified a major fire hazard caused by flooding from steam leakage, which was impacting CIW's main electrical panel. The facility was able to correct the issue without major impact. These TRC actions enhanced the project's outcome and resulted in 250,000 therms in annual natural gas savings.

TRC's budget for this project was $40,000, including ICI Engineers.

City and County of San Francisco Public Utilities Commission (SFPUC)
Energy Engineering Services
San Francisco, CA ● 1996 – Present

TRC has provided a variety of energy engineering services to the SFPUC for over 20 years. These services have included preliminary and comprehensive energy audits, technical evaluation of proposed efficiency measures, new construction design review for energy efficiency, proposal review, design assistance, construction management, and other program support services for City facilities and departments. TRC has consistently delivered high-quality solutions within negotiated times and budgets. This has included work on behalf of several City departments, including Police, Fire, Recreation and Parks, Real Estate, Sherriff's Office, Cultural Arts, Public Works, Water/Wastewater and others.

In 2020, TRC performed a preliminary analysis of potential electrification for the San Francisco Conservatory of Flowers. The facility requires high temperature heating for distributed greenhouses. TRC investigated a variety of heat pumps and booster heating strategies to determine an optimal heating system with a reduced carbon footprint. TRC analyzed the increased load requirements load requirements to determine whether an upgrade electrical service would be required.

In 2020, TRC conducted an electrification study of five City fire stations to determine whether the replacement of gas-fired systems with electric systems is feasible. TRC reviewed available drawings and utility data and conducted a field survey to assess site conditions. Based on these reviews, TRC determined that Fire Stations 9 and 26 had the best potential for electrification projects. Both stations had space heating and domestic hot water (DHW) equipment that was nearing or beyond their normal service life, and they had reasonable access and locations for new equipment.

TRC reviewed preliminary design information for the Islais Creek Municipal Facility, which included an assessment of the energy efficiency of the planned mechanical, lighting, and building envelope systems. TRC developed and presented design guidelines

for the design. For the Municipal Metro East Light Rail Vehicle Maintenance and Operations Facility, TRC reviewed final conceptual design information to identify incremental energy savings.

TRC provided cost-effective energy savings validation for a project to retrofit and replace lighting systems at three major water treatment facilities. We developed a sampling and monitoring plan and placed light loggers throughout the facilities to gather before and after measurements of the lighting operation to quantify the effect of occupancy sensors in industrial and office areas. TRC combined power data and measured operation to adjust savings estimates for the as-built conditions. We validated the savings at 120 percent of predicted values.

TRC's budget over the years was approximately $5,000,000.

Los Angeles County Metropolitan Authority
Energy Management Program
Los Angeles, CA ● 2011 – Present

TRC is Metro's trusted energy advisor and, since 2011, has been the prime consultant to implement Metro's agency-wide Energy Management Program (EMP). Metro has oversight for the third largest transportation system by ridership in the United States with nearly 145,000,000 passenger miles traveled in 2018 through its rail and bus services. Metro saw a tremendous opportunity to optimize its portfolio of 2,000 properties and leverages the EMP as a mechanism to accomplish that task.

Since 2011, TRC has implemented the agency-wide EMP for the Los Angeles County Metropolitan Transportation Authority's (Metro). Our team of skilled engineers acts as Metro's Owner Representative and reviews capital renovation and retrofit plans to align with short and long-term energy goals. TRC has contributed to the successful implementation of the current comprehensive EMP. We provide the following services:

- Management consulting and strategic planning
- Comprehensive energy efficiency project management – audits through implementation and M&V
- Development of a green fund for project financing
- Energy resiliency studies for operational facilities and bus divisions
- Sustainability master planning support
- Utility rate analysis
- LEED certification management
- Clean energy development strategy
- Renewable/battery storage energy analysis, design, deployment, and reporting
- Engineering system design and review
- Energy, water, and LEED related training module development and delivery

- Retro-commissioning and heating, ventilation, and air conditioning analysis
- Energy data and project metric database management, development, and customization
- Electric vehicle charging station engineering
- LED lighting retrofit design and specifications for the 27-story Gateway Building (Metro headquarters)
- Microgrid feasibility analysis
- Management level and Board of Director reporting

Currently, we are managing six open task orders that comprise 12 different projects. ICI Engineers is a subcontractor to TRC, providing HVAC replacement design services. TRC's total contract value is $6,400,000, and it is an ongoing project.

SoCalREN

Southern California Regional Energy Network
Energy Engineering Services
Irvine, CA ● 2012 – Present

TRC provides energy efficiency services for public agencies via the Southern California Regional Energy Network (SoCalREN) and The Energy Coalition (TEC). TRC is a collaborative technical partner to TEC and the public agencies supported by the program. Through the program, TRC works with local governments to identify and implement energy efficiency opportunities in municipal facilities, help develop scopes of work for contractors, identify the best implementers, and provide construction management support. Many cities choose to utilize the ESCO model for projects, for those cities we provide technical review of all ESCO deliverables, including preliminary assessments, IGAs, proposed technical specifications, M&V plans, construction period support, and proposed designs. TRC has delivered 50,000,000 kWh and 50,000 therms of installed savings to numerous public agencies and The Energy Network in over the past ten years.

TRC has provided technical assistance on more than 400 projects over 75 cities and public agencies including the cities of Santa Ana, Long Beach, Newport Beach, Palmdale, Santa Monica, Culver City, Costa Mesa, Ventura, Oxnard, Camarillo, Visalia, Rancho Mirage, Orange, County of Los Angeles, Las Virgenes Municipal Water District, Eastern Municipal Water District, Antelope Valley Unified High School District, and others.

TRC's annual budget for this work is $500,000, and it is an ongoing program.

LA DWP Los Angeles Department of Water & Power

Los Angeles Department of Water & Power
Technical Review Services
Los Angeles, CA ● 2016 – Present

TRC provides technical support for LADWP's Custom Performance and Energy Efficiency Technical Assistance programs. We support LADWP program managers in their customer interactions on technical aspects. For Clean Power Plan (CPP) technical review, TRC works with customers to review energy savings calculations, provide M&V plan support, and verify program-eligible energy savings. Last year, TRC supported over 50 applications with energy savings of approximately 25 million kWh and 5 MW peak demand reduction. TRC provides ASHRAE Level II energy and retro-commissioning (RCx) audits at LADWP-owned facilities to ensure compliance with the LA Existing Building Energy and Water Efficiency (EBEWE) ordinance. These services include benchmarking the facilities and assessing water and energy efficiency opportunities through in-depth building energy modeling. Many RCx measures TRC identified during audit efforts were implemented during site visits, resulting in immediate energy savings.

TRC worked seamlessly with LADWP engineering and HVAC mechanic staff to comply with EBEWE and provide a list of energy efficiency opportunities. TRC has developed innovative deemed measure packages with LADWP to add to the list of rebate opportunities for local customers. We worked to push new measures through to California Public Utilities Commission (CPUC) approval, marking a first for a POU in California.

The budget for this project is $2,000,000 over five years.

City of Chula Vista
Energy Services
Chula Vista, CA ● May 2019 – Present

Since 2019, TRC has provided professional engineering services to the City of Chula Vista supporting their energy and sustainability goals. TRC has held several contracts with the City over the years, which spanned various types of scopes and projects.

TRC's first project as a citywide ZNE study for all City of Chula Vista facilities. TRC conducted energy audits and benchmarking of all major energy consuming and generating equipment in the city. We developed recommended measures, preliminary feasibility and constructability, energy savings analysis, and costs to the city with the overall intent of citywide ZNE.

TRC has also supported Chula Vista with several project development and construction support projects, including:

- Development of lighting performance specifications for a citywide conversion to LED lighting.
- Installation of energy meter and building management system remote metering using Melrok to perform retro-commissioning (RCx) and M&V at the Civic Center and South Library facilities. Through this, we identified potentially RCx measures for the City to

implement and track with the Melrok systems.

- Commissioning (Cx) on the mechanical and lighting systems City's new Fire Station 10 using the Merlok platform. This included functional testing, development of an issues log, and proposed solutions to issues.
- Development a scope of work and technical specifications for a new battery storage system at their Animal Shelter.

TRC lead the development of a compliance program for the Chula Vista Bayfront development's unique environmental and energy policy requirements. As part of this TRC provided a technical review of the energy compliance document for the largest development in the Chula Vista Bayfront, including several rounds of RFIs with the developers to confirm compliance.

TRC is currently supporting the City of Chula Vista with development of an O&M plan for their large solar PV portfolio. As part of this TRC conducted on-site reviews, developed a deficiency list, benchmarked solar production, provided areas of focus for repairs, recommended a sequence of implementation for repairs, and developed O&M plan language for the City's future use.

Total budget for the engineering services is $300,000 and this is an ongoing effort.

SOUTHERN CALIFORNIA EDISON®
An EDISON INTERNATIONAL® Company

Southern California Edison
Local Government & Institutional Partnerships
Rosemead, CA ● 2006 – 2018

TRC provides technical assistance services for Southern California Edison's (SCE) local government agencies and institutional partners. These services closely mirror Owner's Representative services, including:

- **Preliminary Assessment Review:** TRC works with the agencies and SCE to benchmark and identify facilities that would benefit the most from further investigation.
- **Energy Efficiency Project Development:** TRC conducts ASHRAE Level II or targeted audits to identify energy efficiency and demand response projects. The audit rigor meets SCE incentive program requirements.
- **Procurement Support:** TRC works with the agency to review bids or proposals from ESCOs and or traditional vendors.
- **Incentive Applications:** TRC develops the project application and installation report package on behalf of the partners and supports partners through the SCE incentive review process. Where applicable, TRC helps support the on-bill financing application process.
- **Council Approval:** TRC supports agency staff in packaging and presenting projects for council approval.
- **RFP Development:** TRC supports partners by identifying scopes of work, creating

design specifications, and developing and writing RFP documents and reviewing RFP responses.

- **Construction Management:** TRC works with selected contractors, and in conjunction with the agency staff, provides high-level construction management support.
- **M&V Support:** TRC reviews and validates M&V plans for all projects.

TRC understands that each agency is unique in terms of their needs and resources and has tailored our scope to meeting the needs of each partnership city. TRC has developed approximately 100 energy efficiency projects for 30 partnership cities with total energy savings of 25,000,000 kWh. We have completed these services on-time and in-budget. We use M&V methods specific to the project. For lighting projects, we use International Performance Measurement and Verification Protocol Option A, while for controls and HVAC heating, ventilation, and air conditioning projects, we use either Option B or D.

TRC's budget for this contract is $2,000,000, and the program closed in 2018.

verizon

Verizon Energy Services
Multiple National Locations ● 1999 - 2015

As Verizon's corporate energy advisor for over 15 years, TRC provided the telecommunications giant with a host of smart energy savings solutions for its facilities across the nation. Services ranged from energy audits, Owner's Representative services, national strategic EMP development, program tracking, M&V, incentive support, project implementation management, turnkey project implementation, and general energy consulting.

One example of our Owner's Engineer services to Verizon is we helped Verizon reduce energy consumption of their controlled environmental vaults (CEVs), TRC designed an extremely cost-effective initiative that targeted its CEVs in the New England and Mid-Atlantic regions. CEVs are self-contained underground data centers that house equipment used to generate dial tone. CEVs are typically cooled with redundant split air conditioning systems that use 100% return air. Ventilation air is only provided to the CEV with a vent fan when the CEV is occupied. To facilitate energy and costs savings, TRC implemented an economizer cycle that cools the CEVs with outside air from the vent fan when conditions permit. When the outside air temperature is below 68°F, a new controller prevents the AC units from operating, and instead operates the existing CEV vent fan as needed to provide outside air for cooling through an existing barometric damper. When the outside air temperature is above 68°F (or humidity is determined to be too high), the controller disables the vent fan and enables the AC units for cooling. Savings are realized from the use of outside air for cooling instead of the AC units.

TRC developed and implemented a turnkey program that enhanced the HVAC control and allowed the use of outside air for cooling in 51 CEVs. TRC was responsible for:

- Estimating savings

- Identifying equipment vendors and installation contractors
- Documenting and approving work plans
- Managing the schedule
- Coordinating with site owners
- Verifying savings

To validate our initial savings calculations, TRC developed and implemented an M&V plan that included temporary meters at selected CEVs and at least two weeks of pre and post retrofit data. We normalized and extrapolated data for an entire year. The data collected showed that the controllers were able to reduce the operation of the air conditioning units and were also able to provide better temperature control which further improved the savings.

TRC implemented the CEV project under a very aggressive timeline and successfully reduces energy consumption by 20% and saves Verizon approximately $90,000 in annual energy savings with a simple payback of 2.3 years.

Our budget over the 15-year span was over $10,000,000.

City of Newport Beach
Energy Services
Newport Beach, CA ● 2015 – 2019

TRC has worked with the City of Newport Beach, providing energy engineering and Owner's Engineer services to successfully implement many projects through the years.

The services provided include the following:

- **Preliminary Assessment Review:** TRC reviewed benchmarking reports to identify target buildings for potential energy efficiency opportunities.
- **Investment Grade Audits:** TRC developed IGA's for facilities and systems which needed upgrades.
- **Project Development Support:** TRC created detailed technical specifications used to advertise the project.
- **Procurement Support:** TRC reviewed bids from responding vendors to help identify the best fit for the project at hand. Once selected, TRC also worked to review applicable change orders.

Some of the completed Newport Beach projects included:

- LED replacement of 3,200 streetlights across the city, including safety lights used to illuminate roadway intersections. TRC also performed photometric analysis to ensure that the proposed lighting met safety guidelines.
- Replacement of 17 thermosiphon block heaters for emergency generators throughout the city.
- Various interior LED lighting upgrades.

TRC's budget for supporting Newport Beach was $150,000 and all projects were completed by 2019.

3.1.2 ICI Engineers' Experience

To bolster the team's mechanical, electrical, plumbing, and structural design capabilities and geographic reach, TRC has partnered with ICI Engineers.

ICI's expertise includes mechanical, electrical, and plumbing engineering design work that includes chiller plant and distributions, air handling units, electrical power and lighting, fire alarms, and low-voltage data services. ICI has completed multiple projects in the design of entertainment centers (Hotel & Casinos), U.S. Airforce bases (California, Nevada, Texas, Ohio), theme parks (Disneyland and Long Beach Aquarium), K-12 schools (Los Angeles Unified School District) and higher education (Los Angeles Community College District), healthcare facilities (DGS State Hospitals, University of California Los Angeles, University of California Santa Barbara, Sharp Memorial, California Pacific Medical Center), tenant retrofits, data centers, transportation facilities for Los Angeles County Metropolitan Transportation Authority (LA Metro), and commercial buildings.

ICI maintains its highest professional standards and quality work through peer review to ensure project code compliance and design integrity. As professional engineers, our team proactively works with facility owners, architects, developers, design-build groups, energy services organizations and State agencies such as California Office of Statewide Health Planning and Development and California Division of the State Architect.

One of ICI's most outstanding projects with LA Metro is the building commissioning of MTA Division 20 Westside Subway Extension Location 64, which achieved LEED Gold certification. ICI was instrumental in providing consulting services that delivered an excellent system performance for the intended occupant and owner's requirement, outstanding energy efficiency for the systems selected and the building function, and progressive low climate impact in system operation and maintenance.

TRC and ICI work together on all CDCR work and those qualifications are applicable to ICI.

LACMTA Division 20 Westside Subway Extension Location 64 Los Angeles, California

Project Description

The LACMTA Location 64 project was a cutting-edge, new facility designed and constructed over the last seven years. It's an 80,000 SF rail support and maintenance facility, awarded by

USGBC for LEED Gold certification. ICI Engineers was instrumental in providing consulting services to provide the following key factors in building development success:

1. Excellent *System Performance* for the intended occupants and owner's requirements
2. Outstanding *Energy Efficiency* for the systems selected and the building function.
3. Progressive *Low Climate Impact* in system operation and maintenance.

ICI Engineers was on the job from the very beginning to the very end. Our engineers ensured the design documents met the owner's intent on the three key factors shown above. We tracked with the project and communicated needed adjustments throughout the construction phase. Our engineers were then on the ground in testing, proving, and documenting that the final building met performance, energy efficiency, and climate goals.

The value added by the ICI Team is summarized in the 2019 LACMTA Energy & Resource Report. This report includes a project highlight page for the Building 64S. In this highlight LACMTA stated the following:

"Our building commissioning process ensures new facilities are equipped by embedding sustainability and performance considerations into every phase of a project, from design through operations. The Commissioning process used for Metro's newest maintenance facility, Location 64, was the most collaborative and successful to date."

ICI provided a focused commissioning process that brought sustainability and performance to the project, wrote an innovative and new Commissioning Plan and Functional Performance Test processes for the mechanical and electrical systems.

Scope of Services

- Ensured Owner's Intent document was met.
- Developed Commissioning Specification.
- Developed Commissioning Plan.
- Developed Commissioning Pre-Functional Checklists and Functional Performance Tests.
- Developed Commissioning Schedule.
- Reviewed contractor submittals and work plan.
- Inspected work progress and maintained communication with owner on construction work.
- Reviewed pre-functional testing completed by contractors.
- Completed functional performance testing work and notified contractors of deficiencies and any rework.
- Managed the Commissioning Issues Log
- Developed close out reports and final submission to owner.

Key personnel that worked on this contract

- Joe C. Ablay, P.E., ENV – Energy Engineer/Commissioning Authority, CxA. As the owner's representative, he was responsible on the over-all implementation of the Cx plan and Cx process until completion of project. Reviewed design document to ensure that OPR was fully complied into design documents. Developed Cx specifications, Cx plans, pre-functional checklists (PFCL), and functional performance test forms (FPT). Reviewed contractor submittals and work plan. Reviewed PFCLs completed by contractors. Completed FPT works and notified contractors of deficiencies and rework. Develop close-out reports for final submission to owner. He is also the mechanical engineer responsible on the inspection and functional performance testing of HVAC systems, building management systems, VAV terminal, and other systems.
- Steve Furgeson, P.E. - Commissioning Authority, CxA. Reviewed design document to ensure that OPR was fully complied into design documents. Developed Cx specifications, Cx plans, pre-functional checklists (PFCL), and functional performance test forms (FPT). Reviewed contractor submittals and work plan. Develop close-out reports for final submission to owner. He developed other functional performance testing required for various industrial equipment installed in the building.
- Hugo Villanueva, P.E., ENV – Electrical Engineer. He was responsible on the inspections and functional performance testing of lighting & its controls, communications, PV systems, utility sub-metering, generator testing, fire alarms, and other industrial equipment.

Project start/end date

January 2016 to April 2020

Project cost

Over $35M

Project budget (as the CxA)

$400,000

Atascadero State Hospital: Engineering Analysis and Design (2018)

ICI performed full energy and economic analysis and mechanical, electrical and structural engineering designs which include the following:

- Lighting retrofit
- HVAC air handling units variable speed drive (VSD) conversion
- Central cooling plant replacement
- 3 - 500-ton chillers
- 2 - 750-ton cooling towers
- VSDs on chilled water and condenser pumps

- Primary-Secondary chilled water VSD addition
- Tertiary loop pumps new VSDs
- New EMS controls

The total cost of this project was $4.5M.

4 Claims, Licensure, Non-Discrimination, and Health Insurance Portability and Accountability Act (HIPAA) Violations Against Your Organization

TRC Engineers, Inc. ("TRC") does not have any past and/or current licensure, or HIPAA, or non-discrimination claims resulting in claims or legal judgments against TRC within the past five years.

5 Proposal Fee and Professional Rates

The following rates are Time and Materials (T&M) rates inclusive of overhead, benefits, and profit. Direct expenses will be billed at cost without markup. We are also open to per project pricing if the County is interested in that approach.

5.1 TRC Rates

Classification	Key Staff	Hourly Rate
Vice President	Abhijeet Pande Catherine Chappell	$ 333
Director II	Colman Snaith Michael Mutmansky Myron Grassle	$ 302
Director I	Jingjuan "Dove" Feng	$ 289
Associate/Technical Director		$ 264
Engineering Manager		$ 254
Program Manager		$ 244
Senior Project Manager II		$ 239
Senior Project Manager I		$ 234
Engineer V	Lake Casco Michael Roberts	$ 224
Project Manager III		$ 208
Project Manager II		$ 196
Engineer IV	Pratap Jadhav Srushti Koli Arun Sanjeevi	$ 190
Project Manager I	Jacob Green	$ 183
Engineer III	Smruti Srinivasan Dan Simpson	$ 172
Associate PM II		$ 166
Associate PM I		$ 161
Engineer II	Chabeli Huang Xia	$ 152
Project Analyst II		$ 146
Project Analyst I		$ 139
Engineer I		$ 134
Technical Editor		$ 129
Project Associate II		$ 127
Project Associate I		$ 120
Project Assistant		$ 112
Technical Intern		$ 88

The rates will be subject to 3% COLA every calendar year or as mutually agreed between the parties.

5.2 ICI Rates

CLASSIFICATION	RATE/HOUR (no ranges)
Principal Engineer (Joe Ablay)	$245.00
Senior Mechanical/Plumbing Engineer (Joe Ablay)	$215.00
Senior Electrical Engineer (Hugo Villanueva)	$215.00
Engineer 1 (Dante Flores)	$160.00

6 Cooperative Purchasing

TRC is excited about the opportunity to extend the resultant contract to other San Mateo County departments and/or public agencies in the San Francisco Bay area upon their request.

7 References

TRC is pleased to offer the following references, who can attest to our quality and comprehensive services:

For CDCR:

Jeremiah Peacock
Chief, Energy & Sustainability
Facility Planning, Construction and Management
Project Management Branch (PMB)
9838 Old Placerville Road, Suite B,
Sacramento, CA 95827
916-216-1443 (Work Cell)
Jeremiah.Peacock@cdcr.ca.gov

For LA Metro:

Dr. Cris Liban
Sustainability Officer
Los Angeles County Metropolitan Transportation Authority
1 Gateway Plaza, Los Angeles, CA 90012
213-922-2471
LibanE@metro.com

For SFPUC:

Terrence O'Sullivan
Program Manager
SFPUC Power Enterprise Customer Programs
(Remote) 510-326-8606; Desk: 415-554-2424
tosullivan@sfwater.org
TOSullivan@sfwater.org

8 Statement of Compliance with County Contractual Requirements

Per RFP requirements, on February 10, 2025, via email, TRC submitted requested additions in the form of redlines to the sample Contract Template included in the RFP. We respectfully request consideration of our minor additions to the sample Contract Template.

Appendix 1

Resumes

Years of Experience: 38

EDUCATION

Energy Management Program
Edmonds Community College

CERTIFICATIONS

- Registered Professional Mechanical Engineer - State of Oregon #57998PE
- Association of Energy Engineers Certified Energy Procurement Professional
- US Green Building Council Leadership in Energy and Environmental Design Accredited Professional (LEED AP)
- Association of Energy Engineers Carbon Auditing Professional

CONTACT

PDavid@trccompanies.com

Paul David

Vice President, Engineering

Paul David has over 38 years of experience in energy efficiency and serves as the Officer in Charge for major TRC engineering projects. In this role, he provides executive oversight, leverages corporate resources, and conducts technical leadership while ensuring quality, standards, and performance. He provides guidance across program areas, including energy efficiency, distributed energy resources, electrification, resiliency, and sustainability. Paul also represents the company in the policy arena through participation in many forums that influence federal and State energy policy and program design. He has developed, managed, and implemented numerous award-winning energy efficiency and distributed energy resource projects for utilities and commercial sector clients.

RELEVANT EXPERIENCE

Various Clients • Officer-in-Charge
Various Programs

Paul has Officer in Charge responsibilities for various TRC-implemented contracts nationally. He leverages his corporate energy manager experience in energy program design and delivery.

Verizon Communication, Nationwide • Program Director & Corporate Energy Manager

Paul provided Verizon Communications with a breadth of engineering and management services in a variety of capacities. Throughout his 11 years as Verizon's corporate energy manager, Paul helped Verizon develop a strategic energy management plan that resulted in about $8.5 million in annual energy savings, covered over 30 states, and was implemented at multiple sites simultaneously.

Dell Computers • Officer-in-Charge
Strategic Energy Management Plan

Paul oversaw the development of a strategic energy management plan for Dell's portfolio of facilities in Texas. This plan investigated Dell's energy use and costs, past energy management efforts, and identified opportunities for cost reduction in the areas of energy information, energy use, and energy procurement.

Target Corporation • Program Manager
Strategic Energy Management Plan

Paul managed the development of a strategic energy management plan for Target Corporation. He developed and supported the implementation of the strategy to reduce Target's overall energy use and costs. The SEMP identified opportunities for cost reduction in energy information, energy use, and energy procurement.

Years of Experience: 13

EDUCATION

MS, Industrial Engineering and Management
Oklahoma State University

BS, Mechanical Engineering
Shivaji University (India)

CERTIFICATIONS

- Certified Engineer in Training (EIT)
- Certified Energy Manager (CEM) Certification #22274
- Certified M&V Professional (CMVP) Certification #4261
- Project Manager Professional (PMP) Certification #3859382

CONTACT

pjadhav@trccompanies.com

Pratap Jadhav

Project Engineer IV

Pratap Jadhav has experience with energy audits, electrification studies, retro-commissioning, renewable energy sources feasibility studies, and Combined Heat and Power (CHP) feasibility studies. He has assessed the energy savings potential for facilities in the manufacturing, industrial, commercial building, higher education, and public sectors. As part of this work, he conducts site inspections, verifies submitted energy savings calculations, and adjusts savings according to program guidelines.

RELEVANT EXPERIENCE

City of San José Beyond Benchmarking & City of San Francisco Existing Building Ordinance • Program Manager

Benchmarking and Building Compliance Work

Pratap oversees the day-to-day activities of the City of San José Beyond Benchmarking and the City of San Francisco Existing Building Ordinance programs. As part of his responsibilities, he is the primary point of contact with the clients and works with them to establish a budget. He has developed a systematic process for reviewing benchmarking documents and determining eligibility for compliance. He consistently monitors changes in ordinance requirements and updates the existing process accordingly. Leading a team of engineers, he manages the budget and schedule. He also directs activities such as utility data review, benchmarking, and documentation to meet compliance requirements.

California Department of Corrections and Rehabilitation (CDCR) • Owner's Engineer

Architectural & Engineering Services

Pratap is currently serving as the CDCR Owner's Engineer on a major mechanical system and lighting retrofit projects. As CDCR's trusted advisor, Pratap provides design review and inspection services as part of the design-build process, ensuring contracted energy service companies complete their projects in accordance with best practices.

BayREN • Technical Lead Engineer

Commercial Program with NMEC approach

Pratap, serving as the BayREN commercial program technical lead, oversees engineering reviews of pre-install documentation, coordinates onsite inspections for complex projects, provides

technical assistance to participants as directed by BayREN, collaborates with Recurve to verify energy savings post-project implementation, and works with BayREN to enhance program processes and guidelines. Through his contributions, Pratap ensures the program's smooth operation, adherence to standards, and continuous improvement in energy efficiency initiatives.

Contra Costa Community College District (4CD) • Project Manager

Engineering Consulting and Project Management

Prata helped the Contra Costa Community College District (4CD) bring air handling units across multiple campuses up to code through targeted retro-commissioning. In just over two months, under Pratap's direction, TRC physically tested more than 600 air handlers across six campuses, with a focus on airflow and economizer operation, using multiple airflow testing methodologies. After identifying deficiencies, Pratap worked closely with 4CD, their engineering firm, and maintenance contractors to identify and complete corrective action. Pratap provided construction management services for remedial air handler upgrades across six 4CD campuses.

OTHER EXPERIENCE

Pacific Gas & Electric Company (PG&E) • Project Engineer

Customized Incentives for Energy Efficiency / Savings by Design Programs

Pratap is responsible for reviewing energy savings calculations for the PG&E Customized Incentives Program. He conducts site inspections, verifies that the submitted energy savings calculations are sound and, if necessary, recalculates and adjusts savings according to program guidelines. For Savings by Design, he meets with PG&E, its customer, and the design engineer to identify potential energy efficiency measures recommendations for energy efficiency improvements.

City of Palo Alto • Engineer

EM&V Program

Pratap worked with the program's statistician to select correct sample size of projects to evaluate program performance. He performed on-site walkthroughs to verify the installation and correct operation of facility improvement measures.

US Department of Veterans Affairs (VA) • Auditor

Sacramento Medical Center

Pratap performed lighting, HVAC, and building envelope audits of seven buildings at the Sacramento Medical Center in Mather, California. He identified and quantified energy savings potential in systems with the greatest savings potential, meeting the VA's goal of 10% energy reduction campus-wide.

California Energy Commission (CEC) • Engineer

Electric Program Investment Charge (EPIC) Emerging Technology Demonstrations

Pratap supports the EPIC Leading in Los Angeles demonstration, which demonstrates a scalable, emerging technologies package for existing commercial buildings in the Los Angeles Basin. He works with the EPIC team to gather required data, and he analyzes the data to understand building and equipment operation.

Years of Experience: 28

EDUCATION

BS, Mechanical Engineering
Boston University

CERTIFICATIONS

- Registered Mechanical Engineer (CA#M31111)
- Certified Measurement and Verification Professional (CMVP)
- Qualified Commissioning Processes Provider (QCxP)

CONTACT

csnaith@trccompanies.com

Colman Snaith

Director of Engineering

Colman Snaith is primarily responsible for developing and managing energy efficiency, building electrification, and power generation programs for commercial, institutional, governmental, utility, and military facilities. His duties also include managing a team of engineers and ensuring they provide the highest quality deliverables—on time and in budget. Colman has a comprehensive understanding of how to maximize energy savings, leverage new technologies and best practices, and ensure project constructability. He draws upon his broad engineering background, which includes years in the field working with union contractors; designing cogeneration and alternative generation systems; and identifying, analyzing, and constructing energy conservation measures. As a safety manager, he applies this experience and ensures the entire team conforms to OSHA and NFPA 70E safety standards.

RELEVANT EXPERIENCE

TRC Research Portfolio ● Measurement & Verification Specialist (M&V)

Colman is responsible for developing M&V and meter deployment plans for TRC's California Energy Commission, New York State Energy Research & Development Authority, and Department of Energy grant funded research projects. He aligns physical data points with the objectives of the research project, determines sensing locations, identifies devices to obtain measurements, develops procurement lists, and supports installation of temporary data loggers. Through TRC's data collection platform, Colman works with his team to validate data and maintain data continuity. He also provides team oversight to ensure M&V plans are International Performance Measurement and Verification Protocol compliant and meters installations are NFPA 70E (Standard for Electrical Safety in the Workplace) safety standards.

US Army Radford Army Ammunition Plant (RFAAP) ● Program Manager

Energy Audits

Colman led a team of engineers to assess the energy demands and major energy consuming equipment and infrastructure at RFAAP. His team verified the existing equipment type, function, and condition; estimated the electrical loads associated with process and major end uses (e.g. process, compressed air, HVAC); estimated the steam loads for each process and the steam energy losses in each process and distribution system; and identified energy conservation opportunities and their associated savings.

OTHER EXPERIENCE

City of San Jose ● Program Manager

Retrocommissioning Audits

Colman led TRC's efforts to transform 22 City of San Jose facilities into high performance green buildings. Colman and his team performed retro-commissioning studies of city facilities including police stations, fire stations, libraries, museums, administration buildings, and senior and community centers. Colman led the team's development of functional testing, performance testing, and measurement and verification plans. He provided foundational guidance on the interpretations of results, identification of opportunities, and development of saving calculations

Field Metering/M&V Programs

California Energy Commission and ZNE Alliance ● Project Director

EPIC – Richmond Advanced Energy Community Virtual Power Plant (VPP) M&V

Colman led a team of engineers responsible for independently verifying the performance of two VPP's, each consisting of solar photovoltaic (PV) systems, battery energy storage systems (BESS) and internet of things (IoT) devices installed in residential and commercial facilities. The programs control individual assets for daily load shifting, demand response, and California independent system operator (CAISO) dispatch events. Colman and team worked as the programs' M&V advisors. TRC was responsible for developing M&V methods to independently verify the programs energy, monetary, and GHG performance. TRC also lead the development of an innovative methodology for settlement of CAISO dispatch events in parallel with daily VPP load shifting.

Utility Incentive Programs

Pacific Gas & Electric Company (PG&E) ● Program Director

Large Integrated Audit, retrocommissioning, and Savings by Design Programs

Colman was the program director for multiple PG&E incentive programs. His core duties included, supporting program managers, reviewing scope and budgets, technical oversight, and ensuring all deliverables were provided to clients on time, in budget, and with the highest level of quality. Performance testing and M&V plans were reviewed by Colman to ensure baseline and ex-post energy use could be accurately calculated. He also determined if any live electrical work permits were required and managed the NFPA 70E work process.

Pacific Gas & Electric Company (PG&E) ● Technical Adviser

Customized Incentives for Energy Efficiency Program

Colman provides technical guidance for TRC staff in reviewing energy savings calculations for the PG&E Customized Incentives for Energy Efficiency Program (formerly Non-Residential Retrofit Demand Response (NRR-DR) Program).

Pacific Gas & Electric Company (PG&E) ● Program Director

Self-generation Incentive Program and California Solar Initiative (CSI) Field Inspections

Colman is the program director for field inspections of distributed energy generation projects in support of these utility customer incentive programs. He is responsible for maintaining TRC technical and management structure for the program, performing inspections, training and overseeing the staff engineers assigned to the program, and customer reporting.

Sacramento Municipal Utility District (SMUD) ● Program Manager

Large Commercial Comprehensive Retrofit Pilot Program

Colman works in close concert with SMUD to develop and implement the Large Commercial Comprehensive Retrofit Pilot Program. This Program encourages large commercial customers to pursue greater levels of energy efficiency and realize deep cuts in their existing energy consumption. The Program involves a comprehensive, whole-building approach to commercial building energy reduction with a goal of achieving a minimum of 20% energy savings per building. Colman is working with SMUD to identify an incentive structure that encourages program participants to implement far reaching changes to how they use energy, while remaining cost effective for SMUD. Colman was also charged with developing the analysis detail required to convey confidence in the level of savings.

Southern California Edison (SCE) ● Technical Advisor

Customized Solutions Program

Colman provides technical guidance to TRC staff in reviewing energy savings calculations for the SCE Customized Solutions Program. This energy savings measures includes the replacement of existing equipment or systems with new, high-efficiency equipment or systems.

DER Feasibility Studies

Lawrence Berkeley National Laboratory (LBNL) ● Lead Engineer

Distributed Energy Resource Project

Colman worked with LBNL to identify and evaluate the most suitable types of localized power generation technologies for main LBNL buildings. This distributed energy resource (DER) project was initiated by the US Department of Energy as part of effort to develop and implement decentralized power generation solutions throughout the nation. Colman led the team that considered photovoltaics, combined heat and power microturbines, and fuel cell technologies DER potential for all 193 buildings at LBNL.

New York Times ● Lead Engineer

Cogeneration Feasibility Study

Colman was a key team member for a cogeneration feasibility study produced for The New York Times printing facility in Edison, New Jersey. This project included base line metering of the eight substations feeding the facility, load analysis and projections, engine selection, and central plant modifications. Colman was responsible for collecting metered data, correlating metered electrical load to production schedule and outside air conditions, projecting future loads, and assisting with design drawings.

Johnson & Johnson ● Project Manager

Pharmaceutical Research and Development

Colman identified the feasibility of cogeneration at J&J's campus in Spring House, Pennsylvania as part of a corporate commitment to the reduction of greenhouse gas emissions and to minimize utility demand.

Johnson & Johnson, McNeil Consumer Healthcare ● Project Manager

Cogeneration Feasibility Study

Colman identified the feasibility of cogeneration at J&J's campus in Fort Washington, Pennsylvania, as part of a corporate commitment to the reduction of greenhouse gas emissions and the improvement of operating efficiency.

Dell Americas, Inc. ● Project Manager

Wind Generation Feasibility Study

Colman performed a building integrated wind turbine feasibility study to explore the potential energy savings and technical feasibility of installing building integrated wind turbines within Dell's North American portfolio at sites throughout 10 cities.

Delta Diablo Sanitation District ● Project Manager

Photovoltaic Feasibility Study

Colman conducted a PV feasibility study for the District. The purpose of this study was to identify and evaluate the best locations and applications for PV systems. The feasibility study addressed technical and economic feasibility associated with the installation at a municipal wastewater facility. Colman evaluated ground-mounted and roof-mounted systems with a total array capacity of 500 – 1,000 kW. Following the feasibility study, Colman explored PPA options with the District and identified a PPA financier, MMA Renewable Ventures.

University of California, Berkeley (UCB) ● Project Manager

Photovoltaic Feasibility Study

Colman evaluated three sites for the potential installation of PV arrays at the University of California, Berkeley. The PV study evaluated two PV products at three potential sites on campus to determine the feasibility and energy potential of each product at each site. TRC specifically addressed the application of non-penetrating, roof-mounted, crystalline photovoltaic technology to the Recreational Sports Facility Field House, Tolman Hall, and Wurster Hall.

Lawrence Berkeley National Laboratory (LBNL) ● Project Manager

Distributed Energy Resources Study

Colman identified and evaluated the most suitable types of localized power generation technologies for main LBNL buildings. This distributed energy resource (DER) project was initiated by the US Department of Energy as part of effort to develop and implement decentralized power generation solutions throughout the nation.

Sacramento Municipal Utility District (SMUD) ● Project Manager

Photovoltaic Consulting

Colman provided PV technical and regulatory consulting services to SMUD. He researched the PV permitting process in various jurisdictions and recommended a streamlined process for SMUD. He also performed an infrastructure analysis of a nominal 900 kW plant with on-going performance degradation and maintenance issues. His economic analysis determined the optimal replacement strategy.

Audits / RCx / Project Management

Itron, California Energy Commission (CEC) ● Project Manager

Commercial End-Use Energy Survey

Colman spearheaded TRC's work with Itron to conduct energy efficiency measure cost studies for the California Public Utilities Commission (CPUC) involving both Deemed and Custom measures. Results of the Deemed Cost Study are being combined with other sources to populate the Database for Energy Efficient Resources (DEER), used by the CEC, CPUC, and California utility companies to determine reasonable costs for implementing energy efficient retrofits. The Custom Measure Study involves research to develop methods, tools and data needed to support standardized estimation of ex ante measure costs for calculated incentive measures in commercial and industrial custom retrofit projects.

City of San Jose ● Program Manager

Retrocommissioning Audits

Colman leads TRC's efforts to transform this Silicon Valley city's facilities into high performance green buildings. Colman and his team have performed retrocommissioning studies of city facilities including police stations, fire stations, libraries, museums, administration buildings, and senior and community centers. For each facility, Colman works to identify low-cost/no-cost operational and system improvements to enhance the building's performance and reduce the city's energy usage.

Jefferson Union School District and Chico Unified School Districts ● Project Director

Proposition 39 Support

Performed utility analysis, facility benchmarking, project identification, strategy development, energy expenditure plan development and submittal, and managed California Energy Commission (CEC) required processes and submittals. Provided coordination with other District initiatives (e.g., Facilities Master Plan, smart meter deployment, Bright Schools, Retrocommissioning, solar PV, behavioral programs).

East Side Union High School District ● Project Manager

Energy Audits

In conjunction with Chevron Energy Services, TRC performed energy audits of 13 high school campuses. Mr. Snaith was the Project Manager and Lead Engineer, managing the auditing schedule and process, ensuring that the documentation of surveyed equipment and data was accurate. By conducting frequent check-ins with Chevron and interim deliverables, Mr. Snaith ensured that TRC's results aligned with Chevron and the District.

US Army Radford Ammunition Plant (RFAAP) ● Program Manager

Energy Audits

Colman led team of engineers to assess the energy demands and current major energy consuming equipment and infrastructure at Radford Army Ammunition Plant (RFAAP). As part of this project, Colman's team verified the existing equipment type, function, and condition; estimating the electrical loads associated with process and major end uses (e.g. process, compressed air, HVAC) of electricity; estimating the steam loads for each process and the steam energy losses in the processes and distribution systems; and identifying energy conservation opportunities with their associated savings.

US Department of Veterans Affairs (VA) Medical Centers ● Program Manager

Energy Audits

Colman is the energy services program manager for the Veterans Affairs (VA) Medical Centers in Northern California. He leads a team of engineers who perform energy audits, retrocommissioning services, and alternative energy studies. Colman has provided energy audits or PV feasibility studies for four VA medical centers in Northern California. He provides senior engineering oversight to ensure schedules are met, customer care is delivered, and high technical quality is maintained. Colman continues to provide on call assistance as needed.

NASA Jet Propulsion Laboratory (JPL) ● Program Manager

Energy Audits & RCx

Colman is responsible for the senior level oversight of a team of engineers providing building audits and retrocommissioning at NASA JPL. His team of engineers audited nearly 50 buildings, identifying capital projects as well as retrocommissioning opportunities. Leveraging the information obtained during the energy audits, the team provided cost effective retrocommissioning services for a subset of the buildings. Colman provides senior technical assistance in developing energy conservation measures, M&V plans, and functional tests. He is responsible for maintaining the schedule, budgets, and report quality.

Air National Guard ● Program Manager

Comprehensive Energy Audits

Colman led the team that analyzed electricity & fuel usage for 12 different buildings at the Air National Guard's facilities in Bangor and South Portland, Maine. Colman and his team identified a variety of energy conservation measures with potential cost savings of $36,221 per year plus $8,102 in incentives, for a simple payback period of 9.6 years.

Stanford Linear Accelerator Center (SLAC) ● Auditor

Colman performed an energy saving prioritization survey at the SLAC complex to assess the energy savings potential of the lighting, HVAC, and process equipment in all 163 facilities at the research center, totaling 1,801,429 gross square feet. Energy conservation measures identified included replacement of inefficient heating equipment with more efficient equipment, installation of local HVAC controls, replacement of the central plant chillers, replacement of motors with premium efficiency motors, installation of VFDs on cooling tower circulation pumps and low conductivity water (LCW) main circulation pumps, replacement of cooling towers, and replacement of circulation pumps for the accelerator and wave guide LCW loops.

Various Clients ● Program Manager

Commercial and Municipal Energy Surveys

Colman provides management and oversight to a team of engineers that provide energy surveys for various clients. The scope of services varies between targeted project approaches to comprehensive energy services; electrification evaluations to distributed energy feasibility studies. Facilities vary from a single 30,000 sq. ft. office building to campuses of multimillion square feet. He provides senior level assistance with project identification, development, reporting, and quality control. Colman is responsible for developing and maintaining project budgets, schedules, and customer relations.

Translational Genomics Research Institute ● Commissioning Agent

International Genomics Consortium Headquarters, Phoenix Biomedical Center

Colman was the commissioning agent for the emergency generators and automatic transfer switches for a high-tech pharmaceutical R&D lab. He researched both specified equipment requirements and actual equipment performance. He developed pre-functional and functional tests, led the execution of the tests, and documented the results.

New Jersey Board of Public Utilities ● Subject Matter Expert

Local Government Energy Audits (LGEA)

TRC developed and implements the LGEA Program. We provide more than 400 ASHARE level II audits per year to New Jersey municipalities, school districts, and local government entities. Drawing upon his deep experience with energy audits and past program data, Colman helped develop the LGEA program offering, pricing, and the Excel-based data collection and processing platform—the LGEA Audit Tool and the associated report template. After the initial program development, he continued to support the program by helping develop the process for remote authorship where local auditors would provide field notes to other engineers to perform and analysis and write the reports. He was responsible for remote authoring wastewater treatment plants, campus central plants, and other complicated sites. He was also responsible for providing quality control (QC) reviews of tools and reports created by the LGEA team. Colman currently provides high level guidance to the program and manages staff providing remote authorship and QC support.

San Francisco Public Utilities (SFPCU) ● Subject Matter Expert

Electrification Program and Audits

TRC supports the SFPUC with electrification site evaluations and program development. Through multiple SFPUC programs, TRC has evaluated city properties and provided guidance on reducing energy use and decarbonization. Colman provides senior level engineering support during project development, vetting project constructability, and providing quality control. Recently TRC helped the SFPUC launch a new service to help multifamily customers pursue electrification in existing buildings. As designed by TRC, our team offers free technical assistance and customized electrification roadmaps. He provided guidance and direction for process flow, tool development, and report template creation. Colman helps review the detailed technical reports and high-level road maps that are delivered through the program.

Verizon Communications ● Project Manager

Controlled Environmental Vaults (CEVs) Project

To help Verizon reduce its energy consumption in many of its controlled environmental vaults (CEVs), TRC designed an extremely cost-effective initiative for 51 of its CEVs in the New England and Mid-Atlantic regions. To facilitate energy and costs savings, TRC developed and implemented a turnkey program that enhanced the HVAC control and allowed the use of outside air for cooling in the CEVs. The enhanced control and use of outside air in CEVs provided new opportunities to reduce network energy use with a low cost retrofit with excellent payback. The CEV project reduced energy consumption by 20% and saves Verizon approximately $90,000 in annual energy savings with a simple payback of 2.3 years.

Verizon Communications ● Project Manager

Demand Control Ventilation Pilot Program

Colman led a team of TRC Mechanical Services technicians that initiated a pilot program in 50 sites throughout Southern California. The purpose of the project was to upgrade outside air economizers with demand control ventilation. The project saved Verizon 14.7 kWh/year for an annual costs savings of ~$1.1 million. Colman and team ensured Verizon would be eligible for incentives from the local utility (SCE). Thanks to SCE incentives, the project has a simple payback of 0.2 years.

California State University at Los Angeles (CSULA) ● Project Manager

HVAC Modernization Design-build

Colman managed the design-build project to modernize the HVAC system at the Student Affairs Center and at the Administration building. He was responsible for identifying and analyzing retrofit solutions, designing the projects, procuring the equipment, and constructing the projects. The projects involved close coordination and scheduling with the campus since part of the work occurred in a heavily occupied area. Colman was the Project Manager for this work, coordinating with the campus and overseeing the subcontractors.

Town of Yucca Valley ● Project Manager

Design-build Solar PV System

As project manager for a turnkey nominal 50 kW grid-connected solar photovoltaic system for the Town of Yucca Valley, Colman's responsibilities included the organization and coordination of all aspects of this design-build project through the analysis of alternative system locations, design, construction, and start up. He coordinated all the disciplines and tasks involved in the project, including electrical and structural engineering, utility interconnection agreement, installation, and assistance with the utility incentive. He managed the communication and coordination of the team throughout the design-build process and was responsible for obtaining utility and client approvals.

San Diego State University ● Design Team Project Lead

Design-build Solar PV System

Design team project coordinator for a nominal 14 MW combined-cycle cogeneration project for San Diego State University. As the project engineer for the bid phase, Colman was responsible for completing the thermal load analysis, selecting equipment manufacturers, and coordinating performance details with equipment manufacturers. As design team project manager, his responsibilities included the organization and coordination of the design effort through the design and construction phases. He coordinated the design effort of all the disciplines involved in the project, including mechanical, electrical, structural, and civil engineering, controls, air quality permitting, and architectural. He managed the communication and coordination of the team through the design process from the proposal phase through 100% submittals and was responsible for obtaining regulatory and customer internal approvals. Colman was the primary liaison with the construction team management, the owner, and all design team subconsultants.

Goodrich Aerospace ● Design Team Project Lead

Design-build Combined-Cycle Cogeneration

Design team project lead for a nominal 9 MW reciprocating engine design-build cogeneration project for Goodrich Aerospace. Colman's responsibilities included the economic analysis for the proposal phase of the project and the coordination of the design team during the construction and start-up phases. During the design phase of the project, he assisted with the coordination of the construction team, the owner, and the design team, including mechanical, electrical, structural, and civil engineering, controls, air quality permitting, and architectural disciplines. He was the design team's primary liaison during the construction and start-up phases, responsible for providing seamless coordination between the engineering and construction teams.

New Haven Public Schools (NHPS) ● Project Manager

Bid Document Preparation

TRC performed comprehensive energy audits at nine K-12 campuses and energy efficiency design reviews of 10 K-12 campuses in the design or construction phase. NHPS later contracted with TRC to provide design assistance implementation of the measures. Colman was the Project Manager and Lead Engineer for the design assistance phase, managing the development of approximately 100 performance specifications (over the course of two installation phases) and overseeing the engineering for this effort.

Years of Experience: 9

EDUCATION

MS, Mechanical Engineering
University of Southern California, Los Angeles

BE, Mechanical Engineering
University of Mumbai, India

LICENSES

- Professional Engineer (CA#M40237)

CERTIFICATIONS

- eQuest, VariTrane, AutoCAD, Revit, AFT Fathom, HOMER, Energy ToolBase, Helioscope

CONTACT

SKoli@trccompanies.com

Srushti Koli

Project Engineer IV

Srushti Koli has more than nine years of energy engineering consulting experience, including feasibility studies, grant applications, HVAC system design, and commissioning. Her work experience encompasses energy system modeling, field auditing, retro-commissioning (RCx), cost estimating, and project planning. As a Project Engineer, Srushti has demonstrated aptitude in providing technical assistance for a wide range of electrification and resiliency projects, including photovoltaic (PV) arrays, grid-tied energy storage systems, generators, and microgrids for commercial and institutional sites in California and Oregon.

RELEVANT EXPERIENCE

Pacific Gas and Electric (PG&E) Company • Project Manager
Local Government Energy Leader Partnership Program

Srushti performs resiliency audits for K-12 schools in PG&E territory impacted by emergency power shutdowns. Project responsibilities included auditing, behind the meter PV and battery storage energy feasibility, savings calculations, cost estimating, retro-commissioning, monitoring commissioning demand response, and general engineering support.

Southern California Edison • Project Engineer
Local Government Energy Leader Partnership Program

Srushti performed targeted audits on municipal facilities throughout SCE territory. Project responsibilities included auditing, RCx, energy savings calculations, cost estimating, retro-commissioning, monitoring commissioning demand response, developing incentive applications, and general engineering support.

Southern California Regional Energy Network • Project Engineer
Consulting Services

Srushti assists the SoCalREN program which provides technical assistance to public agencies within Southern California. Her support includes identifying projects through facility audits, developing project cost estimates and detailed scope of work documents, and conducting project measurement and verification.

Marin Clean Energy • Project Engineer
Behind the Meter Energy Storage Program

Srushti leads the development of measurement and verification (M&V) plan of battery energy storage systems for utility customers. She identifies data monitoring requirements and key performance parameters, resolving reporting issues, and developing a M&V tool.

OTHER EXPERIENCE

City of Chula Vista • Project Engineer
Energy Efficiency Services

Srushti identified energy efficiency and demand reduction opportunities to support the City's goal of reducing energy use in municipal facilities and planning for net zero energy. She also performed commissioning and retro-commissioning for city buildings.

Pacific Gas and Electric • Project Manager
Deemed Support & On-Bill Financing (OBF) Programs

Srushti manages the measure package development process for PG&E, leading the batch processing of energy modeling using EnergyPlus, cost calculations for deemed measure packages, and updates to the California electronic Technical Reference Manual (eTRM). Srushti is also the leads for the OBF Program, providing reviews for Tier I and II projects.

Pacific Power • Project Engineer
Community Resiliency Program

Srushti provides technical assistance in developing and reviewing feasibility studies and grant applications for resiliency projects, including grid tied energy storage systems and portable renewable generators for commercial sites in California and Oregon.

Digital Energy, Inc. • Mechanical Engineer

Srushti performed feasibility studies for various public-sector clients, including school districts and city-owned buildings, sponsored by California Energy Commission. Ms. Koli worked on HVAC design projects, performing heat load calculations on new & existing buildings, psychrometric analysis, and sizing of air-handling equipment. She assisted in developing sequence of operations and DDC control point lists, and she was responsible for developing duct and piping layouts using AutoCAD and Revit. Ms. Koli also assisted in commissioning for buildings.

Years of Experience: 10

EDUCATION

MS, Green Technologies
University of Southern California

BSE, Engineering
University of Pennsylvania

CERTIFICATIONS

- Professional Engineer – Mechanical (CA #M38806)

CONTACT

lcasco@trccompanies.com

Lake Casco

Senior Engineer and Project Manager

Lake Casco is an experienced professional in the field of advanced energy, with a diverse skill set that includes developing deemed measures, reviewing energy codes, calculating energy savings, and estimating project costs. He excels in performing whole building energy audits, where he calculates savings, evaluates financial metrics, and drafts detailed reports. Lake has also led the development of site and portfolio-wide Zero Net Energy (ZNE) and decarbonization audits and roadmaps.

He has developed a variety of tools using Excel, Visual Basic, SharePoint, and GIS web applications for energy-related purposes, serving both public agencies and utility customers. In addition to his technical expertise, Lake is an active member of the California Technical Forum (CalTF), where he collaborates with a statewide body of industry experts to advance energy efficiency efforts in California.

RELEVANT EXPERIENCE

Southern California Edison, Pacific Gas & Electric, San Diego Gas & Electric • Program Manager & Technical Lead
Statewide Energy Efficiency Workpapers / Measure Packages

Lake has been responsible for overseeing the development of over 350 energy efficiency workpapers and measure packages for SCE, PG&E, and SDG&E since 2016. This includes more than 140 measure packages directly in the eTRM. He manages the workflow, budgets, deliverables, quality, and client interactions with the TRC engineering team to complete measures for a variety of end uses. Lake also personally develops measures, estimates savings, calculates costs, determines measure eligibility, and drafts measure descriptions.

Los Angeles Department of Water & Power • Program Manager & Technical Lead
Energy Efficiency Measure Packages

Lake led the development of the first two energy efficiency measure packages ever published in the eTRM for public utilities. Working on behalf of LADWP, his team performed energy modeling, market analysis, costing, and development of the measure package in the eTRM. As part of this effort, Lake and his team developed the first comfort analysis published in the eTRM using ASHRAE 55 standards

and the Center for the Built Environment's (CBE) Python-based Thermal Comfort Tool.

Southern California Gas Company • Technical Lead
Statewide Energy Efficiency Measure Package Support
Mr. Casco led the effort supporting a broad costing analysis for all domestic hot water heating measure packages in California for So Cal Gas and Southern California Edison. The cost analysis was used to support measure package development for residential and commercial sectors for both gas and electric storage and tankless water heater equipment.

Southern California Regional Energy Network (REN) • Project Manager and Engineer
Energy Efficiency Engineering Services
Mr. Casco is a lead for TRC's efforts under the SoCal REN program. TRC provides expert engineering support to Southern California public agencies, identifying projects through comprehensive facility audits, developing detailed scopes of work for contractors, managing construction, and performing measurement and verification. Through this program, TRC supports several public agencies, including LA County, Santa Ana, Long Beach, Santa Monica, and Santa Barbara, with turnkey project development. Lake also led the development of the SoCal REN's Streamlined Savings Program's rebate and incentive analysis. This novel program provided incentives and rebates based on greenhouse gas reduction values rather than energy savings. Lake developed the analysis methodology, which leveraged hourly emissions rates from the CPUC's Avoided Cost Calculator (ACC) and hourly energy savings profiles to estimate the GHG emissions reductions across the lifetime of measures.

Southern California Edison • Subject Matter Expert (SME)
CalNEXT Emerging Technologies Program
Through SCE's CalNEXT program, Mr. Casco has supported various emerging technology reports, leveraging his deep knowledge of California's energy efficiency landscape and deemed measure process to ensure that the findings directly support market needs. The report subjects have included heat pump water heater sizing, 120V heat pump water heaters, manufactured home electrification, heat pump crankcase heat management, and commercial duct sealing market research and energy savings.

Energy Trust of Oregon • Senior Technical Advisor
Deemed Measure Development
Mr. Casco supported TRC's ETO Existing Building program in the development of several deemed measures to offer in their program. This included leading the development of two measures individual, providing quality review for several other packages, and

offering guidance on technical issues and resources for numerous other measure packages.

New York State Parks • Project Manager
Zero Net Energy Audit Reports and Decarbonization Roadmaps
Mr. Casco has lead the development of ZNE and decarbonization roadmaps for three state parks in New York. These multibuilding, campus-wide audits included the electrification all scope 1 direct emission building systems such as boilers, furnaces, and water heaters. They also included standard energy efficiency measures for all end uses and onsite generation potential in order to move the parks to site or zero net energy and decarbonziation. Two of the reports also included the electrification of fleet vehicle and non-road equipment emission sources, fleet electric vehicle charging, and electrical system capacity consideration. The reports presented measure descriptions, costs, energy savings, cost savings, and greenhouse gas reduction values.

San Diego Gas and Electric • Project Manager
Chula Vista Zero Net Energy Roadmap
Mr. Casco is responsible for managing the creation of a portfolio-wide zero net energy (ZNE) roadmap for all municipal facilities in Chula Vista. The effort focused on energy efficiency measures for all sites, but also included energy tracking of all of the City's existing and planned solar PV installations. Lake created ZNE energy report cards for each site and the City as a whole to show how energy efficiency and PV could move them towards citywide ZNE. The effort also identified opportunities for microgrid sites, aggregated net metering, and solar maintenance plans as additional ways for the City to improve their energy performance

San Diego Gas and Electric, Port of San Diego, City of Chula Vista • Project Manager
Chula Vista Bayfront M&V Plan
Mr. Casco led the development of the measurement and verification plan supporting local energy compliance in the Chula Vista Bayfront (CVBF) development. Working with the Port of San Diego and the City of Chula Vista he reviewed and clarified the understanding of energy compliance requirements set for the CVBF Master Plan Settlement Agreement and related documents. Using this understanding, Lake developed documentation requirements and processes to verify compliance for new and existing developments and track compliance through future years. He and his team reviewed compliance for the Gaylord Pacific Resort and Convention Center and Costa Vista RV Resort based on building plans and energy models.

LA Metro • Project Engineer
Distributed Energy Resources (DERs) and EV Charger Planning GIS

Mr. Casco created LA Metro's GIS web application hosted on TRC's ArcGIS online site. The application combines layers with detailed information on existing energy and water meters, facilities, electric substations, rail lines, disadvantaged communities, and existing and planned DERs and EV chargers. The application includes color coded and iconographic symbology, search features, and multilayer filtering capabilities to assist LA Metro with visualizing their existing facilities and planning future DER and EV installations.

San Diego Gas and Electric • Project Manager

San Diego Association of Governments (SANDAG) Energy Efficiency Program

Lake created the SANDAG Audit Savings GIS web application hosted on TRC's ArcGIS online site. The application was created to visualize the estimated energy efficiency resources for the various buildings identified through the SANDAG program and their locations related to SDG&E's substations. Using spatial joins energy efficiency resources were automatically attributed to substations based on locations.

Supporting the cities of Vista and Oceanside, Lake managed the energy efficiency project development services provided by SANDAG. This includes energy audits at all major city properties and utility rate analysis. He also created the SANDAG SharePoint tool, hosted on TRC's Extranet, which allows for easy communication and file sharing between TRC, SANDAG, and City staff.

Southern California Edison • Project Engineer

Customized Solutions Program

Lake is responsible for reviewing energy savings calculations for this program. The program's energy saving measures include replacement of existing equipment or systems with new, high-efficiency equipment or systems. He conducts site inspections, verifies that the submitted energy savings calculations are sound, and when necessary, recalculates and adjusts savings according to the program's guidelines.

LA METRO • Project Engineer

CNG Lockout Performance Tracking

Lake created an Excel-based tool to track and report performance of a compressed natural gas (CNG) compressor lockout program implemented by LA METRO at several of their bus divisions. The tool integrated 15-min SCE and LADWP electrical interval meter data to calculate the peak demand reduction and cost savings for the lockout. It compared the calculated demand to actual utility bills to confirm the bills accuracy. Standardized reports could also be obtained from the tool. It was used to identify several issues with lockout performance and errors in utility bills.

Southern California Edison • Project Engineer

CPUC Disposition Issue Log Tracking Tool

Lake is responsible for the development of SCE's CPUC Disposition Issue Log which tracks CPUC comments and disposition issues across all SCE Customized incentive projects. The Excel- and Visual-Basic-based tool is capable of collecting relevant inputs, storing them in a database and creating a number of reports. Reports can be customized based on user requirements such as date range, issue types, project type, and other filters. The tool has earned SCE praise from the CPUC in their annual ESPI reports for Custom projects.

SANDAG • Project Manager

SharePoint and Excel based Program-wide Project Tracking

Lake led the development of SANDAG's outward facing program-wide project tracking system. The Excel-based tracking tools were developed to track project timelines, costs, and savings for each of the 16 cities in the SANDAG Program. These tracking tools were integrated into a customized SharePoint site, with various subsites. The TRC-hosted SharePoint site features separate subsites for each individual city and a main SANDAG site, with specific permissions based on site. This site is being considered for expansion to include subsites for different partnership programs and utility contacts.

OTHER EXPERIENCE

Measure Development

Southern California Edison • Project Engineer
Incentive Program

Lake has experience in revising and adopting new measures to the SCE incentive program. This includes verifying measure eligibility based on applicable code, CPUC direction, and current program requirements and modifying measures if need be. It also includes the development and revision of calculation methodologies, savings values, and cost estimates of measures.

Time of Use Rate Analysis

Various Clients • Project Engineer

Lake has experience calculating energy efficiency and rate change savings based on investor-owned utility time-of-use rate tariffs. He has created tools which estimate on-bill cost savings using 8,760 hourly load profiles, time-of-use peak periods, and specific rate prices. These tools have been used to inform energy efficiency financial metrics and rate change decisions.

Distributed Energy Resources

Various Clients • Project Engineer

Lake has experience in calculating how distributed energy resources will affect customer energy performance. For Costa Mesa, he sited, sized, performed energy calculations, costed, and created a feasibility study for a carport solar PV system that the City was considering at City Hall to offset energy consumption from newly installed EV chargers. For Chula Vista, he analyzed how existing and proposed PV systems would impact ZNE performance for several buildings and the City as a whole when combined with proposed energy efficiency measures.

Quality Assurance/Quality Control

Various Clients • Project Engineer

As a project and program manager, Lake has reviewed hundreds of deliverables submitted to clients. He routinely develops quality assurance tools and checklists to ensure quality deliverables for himself and his team. For SCE and statewide workpapers, he has developed 100-point quality checklists to ensure adherence to policy and accurate reporting for millions of datapoints prior to submission to SCE and the CPUC. He has developed similar quality control checklists for SCE technical review and measure database projects.

Virtual Audit Experience

Various Clients • Project Engineer

In situations when budget and timeline are concerns, Lake has conducted virtual audits instead of onsite audits. This includes reviewing customer and utility supplied data, such as interval meter data, EMS trends and screenshots, and building plans to identify potential energy efficiency measures. It also involves conducting phone interviews with relevant building personnel to identify current building systems, controls, operations, and historical issues. Through the added understanding provided by the interviews Lake can identify additional energy measures, particularly pertaining to retrocommissioning.

Years of Experience: 8

Arun Sanjeevi

Project Engineer

Arun Sanjeevi is a Project Engineer in TRC's Advanced Energy group. Arun is responsible for ASHRAE Level II and III audits, identifying energy efficiency measures, performing energy savings calculations, and writing audit reports. Arun's expertise includes energy modeling, new building commissioning, M&V and retro-commissioning (RCx).

EDUCATION

BS, Mechanical Engineering

Anna University, India

MS, Mechanical Engineering

University of Colorado Boulder

CERTIFICATIONS

- Professional Mechanical Engineer (CA #39917)
- ASHRAE Building Energy Modeling Professional (BEMP)
- LEED AP O+M #10926145

CONTACT

asanjeevi@trccompanies.com

RELEVANT EXPERIENCE

Southern California Regional Energy Network (SoCal REN) • Project Manager and Engineer
Multiple Agencies

Arun supports the SoCalREN energy efficiency programs for Southern California Public Agencies. Arun's tasks include site auditing and equipment testing of mechanical systems, lighting audit, energy modeling, savings calculation development, cost estimates, DER measure development and developing scope of work for proposed EEMs. He supports several agencies including City of Orange, Santa Barbara, South El Monte, Pomona, Santa Monica, and LA County.

Riverside Public Utility (RPU) • Project Manager and Engineer
Energy Efficiency Assessment Program

Arun supports the RPU energy efficiency programs for industrial and commercial customers in their territory. Arun's tasks include site auditing, measure development, measurement and verification (M&V), cost estimates, energy modeling and writing ASHRAE Level 1 and Level 2 energy audit reports.

University of California, Los Angeles • Project Engineer
UC/CSU Energy Efficiency Program

Arun supports the RCx process for the Neuroscience Research Building at University of California, Los Angeles. His tasks include ASHRAE Level III audits, functional test form development and review, on-site testing, project costings and scope of work development, and remote trend analysis. Arun proposed a variety of energy efficiency measures and developed energy savings calculations with an estimated project cost of $8.9 million.

University of California, San Diego (UCSD) • Project Engineer
UC/CSU Energy Efficiency Program

Arun supports the RCx project at the Biomedical Sciences Building at UCSD. His tasks include RCx via pre-functional testing, functional performance testing (FPT) and trend analysis, energy modeling, project scope development, cost for proposed energy efficiency measures (EEMs), and verification of retrofits to the mechanical and controls systems.

OTHER EXPERIENCE

UCSD NTPLLN • Lead Engineer
New Building Commissioning

Arun supported the new building commissioning project at the NTPLLN campus buildings at UCSD, including four residential halls, two office buildings, and one parking garage. Arun's tasks included coordination with contractors, FPT form creation, and functional performance testing and trend analysis. Arun worked with building energy systems under the project scope, including HVAC, DHW system, lighting controls, EMCS, solar photovoltaic, and irrigation system.

San Diego State University • Lead Engineer
UC/CSU Energy Efficiency Program

Arun supported the RCx process for the Geology Mathematics and Computer Science (GMCS) Building at San Diego's State University campus. His tasks included auditing, functional test forms development and review, project costings and scope of work development, and performing on-site testing and remote trend analysis. Arun developed energy savings calculations for the proposed EEMs and with an estimated project cost of $865,000.

County of Santa Barbara • Project Engineer
SoCalREN Project Delivery Program

Arun supported the audit and RCx projects at the County of Santa Barbara building, including 53 county buildings totaling 800,000 square feet of office buildings, clinics, and jails. Arun's tasks include site auditing and equipment testing of mechanical systems, lighting audit, energy modeling, savings calculation development, development of project cost, and scope of work for proposed EEMs.

San Bernardino City Unified School District • Lead Engineer
SoCalREN Pathway to Zero Program

Arun led the retrofit and RCx energy audits at five high schools and elementary schools. He identified and evaluated measures, including plant equipment upgrades, HVAC renovations, VAV conversions, solar, and variable frequency drives. Arun led engineers that implemented the identified retrofit measures identified during the original energy audit. The total estimated energy savings for the entire project was $585,000 with a project cost of $2.2 million.

Alhambra Unified School District • Project Engineer
SoCalREN Pathway to Zero Program

Arun supported the RCx and retrofit project at three high schools and twelve elementary schools. He was responsible for the development of detailed scope for proposed EEMs and the development of functional test forms for commissioning after implementation. Arun identified measures including DCV for auditoriums, advanced control sequences, HVAC unit replacements, chiller, and boiler upgrades, and solar. The project totaled $187,000 in annual energy savings with a total project cost of $7.8 million.

Years of Experience: 8

EDUCATION

MS, Sustainable Energy Technology
Technische Universiteit Eindhoven, Netherlands

BE, Electrical and Electronics Engineering
Anna University, India

CERTIFICATIONS

- LEED Green Associate
- Data Center Energy Practitioner

SOFTWARE SKILLS

eQuest, HOMER, Energy ToolBase, Helioscope, eTRM, ENERGY STAR® Portfolio Manager and various CRMS

CONTACT

ssrinivasan@trccompanies.com

Smruti Srinivasan

Energy Efficiency Engineer

Smruti Srinivasan has 8 years of experience with energy audits and efficiency programs for facilities in the manufacturing and commercial and industrial (C&I) buildings, residential and higher education sectors. She is skilled with ASHRAE Level 1 and 2 audits, resiliency audits, electrification audits, energy efficiency analysis, benchmarking, utility analysis and solar PV analysis. She has been a lead auditor in various programs in New Jersey and California.

RELEVANT EXPERIENCE

Pacific Gas and Electric (PG&E) Company • Senior Project Engineer

Local Government Energy Leader Partnership Program

Smruti performs resiliency audits for K-12 schools in PG&E territory impacted by emergency power shutdowns. Project responsibilities included auditing, behind the meter PV and battery storage energy feasibility, savings calculations, cost estimating, retro-commissioning, monitoring commissioning demand response, report delivery and general engineering support.

Sonoma Clean Power • Senior Energy Auditor

Commercial Energy Audit Program

Smruti performs energy audits for commercial facilities under the Sonoma Clean Power audit program. She analyzes existing energy systems (lighting and HVAC systems) and identifies energy saving prospects in various parts of the building and conducts solar feasibility analysis. She works with cross functional teams to identify the various incentive programs that can be leveraged by the customers and produces quality reports with economic analysis.

New Jersey Board of Public Utiliites • Staff Engineer

Local Government Energy Audit Program (LGEA)

Smruti has conducted ASHRAE Level 2 commercial building energy audits and ASHRAE Level 3 lighting audits for the New Jersey Clean Energy Program (NJCEP) LGEA. She has audited over 150 facilities of various building types including but not limited to schools, pump stations, water treatment plants, universities, residential spaces, fire stations, churches, hospitals, police stations, etc. She has

produced quality audit reports while meeting budgets and tight deadlines. She also managed project budgets and pipeline for the team. She has also performed utility analysis and load profiling and worked to establish building baselines for facilities without sub meters. She has benchmarked various commercial facilities using ENERGY STAR Portfolio Manager and performed solar photovoltaic analysis and feasibility study for the sites interested in distributed generation. Smruti evaluated post audit conservation measures and mapped them to the respective incentive programs offered by New Jersey, including demand side management.

OTHER EXPERIENCE

PG&E • Project Manager
Energy Efficiency Workpapers

Smruti developed workpapers; determined project savings, costs, and measure eligibility; and performed database operations with eTRM.

PG&E • Inspection Engineer
Self Generation Incentive Program Programs

Smruti performs field inspections for PG&E's solar programs, verifying residential and commercial installation of solar PV systems.

Chabeli Huang Xia

Project Engineer II

Chabeli Huang Xia is a project engineer at TRC with work and research experience in data collection software and tools; savings calculations and software; and building systems. She supports a variety of programs conducting site inspections, identifying measures, calculating energy savings, and writing reports. She also uses these skills for evaluating resiliency options.

Years of Experience: 5

EDUCATION

BS, Mechanical Engineering, Structures
San Francisco State University

LANGUAGES

Fluent in Spanish and Cantonese

CONTACT

chuangxia@trccompanies.com

RELEVANT EXPERIENCE

Pacific Gas and Electric Company (PG&E)• Staff Engineer

School Resiliency Program

Chabeli has performed energy assessments focusing on resiliency in schools with high outage risk. She made calculations to recommended energy saving measures and used Helioscope and HOMER software to develop energy production and cost estimates to provide recommendations for backup power solutions.

New Jersey Local Government Energy Audit Program (LGEA) • Staff Engineer

Chabeli provides LGEA application support, utility benchmarking, and audit report creation. Her duties include validating utility data, generating facility ENERGY STAR® scores, analyzing audit data, writing reports, and corresponding with LGEA applicants.

PG&E • Engineer

Energy Savings Assistance Common Area Measures (ESA CAM)

Chabeli schedules and conducts field energy audits for affordable multifamily properties. Additionally, she evaluates and verifies savings opportunities for program participants.

Lockheed Martin Energy • Project Engineer

Chabeli consulted with customers in large manufacturing and industrial sites on energy efficiency programs as well as overseeing current ongoing projects matching and exceeding end-of-year goals. Developed and implemented energy efficiency measures involving retrofitting and replacing industrial and manufacturing equipment such as pumps, fans, compressed air systems, HVAC equipment, and lighting. She gained experience working with industry standard practices in accordance to Title 24, the Database for Energy Efficiency Resources (DEER), state building codes, OSHA standards, and California Air abatement regulations.

Industrial Assessment Center (Campus Program Funded By the U.S Department of Energy) • Student Engineer Intern

Chabeli led a team performing energy audits at manufacturing and wastewater treatment facilities, resulting in approximately 60% of energy saving recommendations being implemented.

Years of Experience: 5

EDUCATION

MS, Energy Systems Management & Policy
University of California, Davis

BS, Environmental Earth Science
Eastern Connecticut State University

CERTIFICATIONS

- DCEP: DOE Certified Data Center Energy Practitioner
- NFPA 70 E Training

CONTACT

DSimpson@trccompanies.com

Daniel Simpson

Project Engineer III

Daniel Simpson is a project engineer in TRC's Advanced Energy Group. He provides project development, market, and policy analysis for energy generation, storage, and efficiency projects across California and the US. Daniel works across traditional engineering and research divisions, connecting practical building engineering with energy and economic analysis for policy and program development.

RELEVANT EXPERIENCE

Various Clients • Advanced Energy: Specialized *Engineering and Research & Commercialization*

Daniel's work encompasses Specialized Engineering and Research & Commercialization projects. His work crosses traditional project-team divisions, connecting boots-on-the-ground building engineering with microgrid development and building energy policy research. His recent work includes next generation heat pump policy development, virtual power plant program development, utility incentive program management, emerging technologies metering systems M&V, CA Title 24 building code development, and CA eTRM measure package development.

University of California, Davis • Graduate Student Researcher

Daniel worked for Dr. Alan Meier and Daniel Mendonsa, the Energy Manager at UC Davis Health, to create energy consumption baselines for HVAC and electrical systems of all UC Davis Health campus buildings powered by their on-site natural gas co-generation plant. Daniel also developed energy consumption reduction goals, timelines, and implementation plans for these buildings based on his research.

Eastern Connecticut State University • Undergraduate Research Scientist

Daniel assisted Dr. Paul Torcellini, principal engineer of the NREL Commercial Buildings Research Group, in an ongoing energy efficiency project at a local middle school. He handled the collection and analysis of extensive data related to energy and thermal comfort to better understand the energy use patterns of the school. He also reported findings and gave recommendations for system upgrades to the school's administration and the town's Board of Selectmen. Daniel also enacted recommendations and

upgrades to the lighting systems and the PV system installation, and progressive upgrades to the school's heating system. His work with Dr. Torcellini continued as an independent study and Daniel presented his research at the 2019 CREATE conference.

OTHER EXPERIENCE

MARKET & POLICY RESEARCH

California Energy Commission • Author
2025 Codes and Standards Enhancement (CASE) Initiative

Mr. Simpson was a contributing author to the 2025 California Energy Code Title 24, Part 6 report on proposed Multifamily Envelope measures. Daniel was the lead researcher of energy and financial impact analysis for proposed changes to the California Energy Code related to Multifamily Building Envelopes. Daniel performed research, analysis, and authored sections of the final report related to high performance window, wall insulation, and cool roof technology impacts and financial viability.

CalNEXT• Author
Technology Support Research Ultra-Low GWP Space Conditioning Heat Pumps

Mr. Simpson was a contributing author to the CalNEXT Market Characterization of Ultra-Low GWP Space Conditioning Heat Pumps for Commercial Buildings Report. Daniel was the lead researcher into the emerging domestic and international market for commercial heat pumps using Ultra-Low GWP refrigerants. Daniel also performed research, and analysis of the technical considerations that may cause market barriers for these next generation refrigerants.

Southern California Edison • Author
California Electronic Technical Reference Manual Measure Development

Mr. Simpson was a contributing author to several CPUC published commercial and residential energy efficiency measures. Daniel has led research into the market, energy, and financial impact of measures related to residential thermostats, commercial refrigeration equipment, agricultural HVAC systems, and industrial process boilers.

California Energy Commission • Energy Engineer
Analytical Method development for Forecasting SB 350 Energy Efficiency Savings

Mr. Simpson was a contributing developer of the methodology for the analysis of forecast energy savings impacts due to the implementation of the new Title 24, part 6 commercial building standards. Daniel helped to research current and novel methodology for SB350 program performance analysis. His role as researcher and developer on this project contributed directly to the

current methodology used to perform energy and financial impact analysis of implemented changes to the California Energy Code.

Lawrence Berkeley National Laboratory • Research Engineer
Washington State Building Performance Standards - Tier 1 Packages Cost Analysis

Mr. Simpson worked to develop implementation cost estimates for energy efficiency measure packages included in WA BPS Tier 1 program, in support of cost-effectiveness analysis. This cost analysis involved bottom-up implementation costs developed based on best available information from vendors, suppliers etc., and included variations due to geographic location within Washington state International Energy Conservation Code (IECC) climate zones and rural and urban areas. The analysis served to support cost effectiveness estimates that are essential to the WA BPS program in terms of quantifying energy cost and demand reduction costs savings to potential Tier 1 participants.

Institute for Sustainable Energy (ISE) • Sustainability Intern
Sustainable Connecticut Program

As a member of the ISE staff, Daniel overcame the challenges that the organization faced the inaugural year of the Sustainable Connecticut program. Daniel worked on this statewide sustainability program that incentivizes municipalities to engage in sustainable and equitable practices and encompasses 127 of Connecticut's cities and towns. Daniel used ECSU contacts to gather data and helped complete ECSU's 2019 AASHE STARS submission for which the university earned a Silver Rating.

EVALUATION, MEASUREMENT, & VERIFICATION

CEC & ZNE Alliance • M&V Project Manager
Richmond and Lancaster Advanced Energy Communities - VPP M&V

Mr. Simpson heads a team of engineers responsible for independently verifying the performance of two virtual power plants (VPP), each consisting of battery storage and internet of things devices installed in residential and commercial facilities. The programs control individual assets for load shifting, demand response, and California independent system operator (CAISO) dispatch events. Mr. Simpson and team worked as the programs' M&V advisors. TRC was responsible for developing M&V methods to independently verify the programs energy, monetary, and GHG performance. TRC also lead the development of an innovative methodology for settlement of CAISO dispatch events.

Lawrence Berkeley National Laboratory • M&V Research Manager
Thin-Triple Window Measurement & Verification

Mr. Simpson oversaw all participant site measurement and verification equipment and performance data collection for LBNL's "Demonstrating Benefits of Highly Insulating Thin-Triple Window Retrofits in California Communities" project. For this program Daniel oversees the configuring, troubleshooting, and installation of temporary data loggers and power meters in all research participant units. Daniel tracks and troubleshoots dozens of data streams to demonstrate and document the benefits of highly insulating thin triple window retrofits in California communities.

Lawrence Berkeley National Laboratory • Energy Engineer
Commercial Refrigeration Equipment Measurement & Verification

Mr. Simpson performed site recruitment and field metering and data collection duties for the commercial refrigeration equipment (CRE) field metering and survey program. In this program Daniel recruited commercial building owners for participation in this program. He also contributes to the configuration, troubleshooting, and installation of temporary data loggers and power meters in research participant sites. Daniel tracks and troubleshoots equipment data streams on site and off to document the energy use of current market CRE equipment.

Sacramento Municipal Utility District • Energy Engineer
Custom Retrofit Program Commercial Energy Audit

Mr. Simpson performed energy audits of commercial facilities for the SMUD Custom Retrofit program. Daniel's work on this program includes on site systems analysis, data collection, utility benchmarking, retrofit pathway development and energy savings calculation.

Pacific Gas and Electric Company • Energy Storage Installation Inspector
Self-Generation Incentive Program (SGIP) Program

Mr. Simpson is responsible for the analysis of residential energy generation and storage systems of California incentive program applications. Daniel works directly with California utilities, system installers and owners to oversee on-site inspections, analyze energy storage system discharges, and qualify incentive program projects.

University of California, Davis • Graduate Student Researcher
UC Davis Health Capus Energy Baselining Project

Daniel worked for Dr. Alan Meier and Daniel Mendonsa, the Energy Manager at UC Davis Health, to create energy consumption baselines for HVAC and electrical systems of all UC Davis Health campus buildings powered by their on-site natural gas co-generation plant. Daniel also developed energy consumption reduction goals, timelines, and implementation plans for these buildings based on his research.

Eastern Connecticut State University • Undergraduate Research Scientist
Eastford Elementary School Energy Reduction Project

Daniel assisted Dr. Paul Torcellini, principal engineer of the NREL Commercial Buildings Research Group, in an ongoing energy efficiency project at a local middle school. He handled the collection and analysis of extensive data related to energy and thermal comfort to better understand the energy use patterns of the school. He also reported findings and gave recommendations for system upgrades to the school's administration and the town's Board of Selectmen. Daniel also enacted recommendations and upgrades to the lighting systems and the PV system installation, and progressive upgrades to the school's heating system. His work with Dr. Torcellini continued as an independent study and Daniel presented his research at the 2019 CREATE conference.

Years of Experience: 45

Michael D. Roberts

Senior Quality Assurance Manager

Michael Roberts has worked as an engineer in the field of energy management since 1979. He has been responsible for managing and conducting energy surveys; and developing energy efficiency analyses for several hundred commercial, industrial, institutional and governmental facilities. Michael manages TRC's QA/QC process for multiple groups across the nation.

EDUCATION

BS, Engineering
Harvey Mudd College

CERTIFICATIONS

- Registered Professional Mechanical Engineer (CA# M21559)
- ASHRAE – Member
- US Green Building Council Member
- LEED Accredited Professional
- Data Center Energy Practitioner – Generalist and HVAC Specialist

CONTACT

mroberts@trccompanies.com

RELEVANT EXPERIENCE

New Jersey Clean Energy Program, Local Government Energy Audits • Senior Reviewer

This program provides free energy audits to New Jersey's local government, state and certain non-profit agencies to determine how they can improve their existing facilities' energy use. Mr. Roberts has been instrumental in developing the evaluation tool used to create an energy balance, and calculate project energy savings and cost. Mr. Roberts is also TRC's lead Technical Quality control member for this program.

Pacific Gas and Electric Company • Senior Reviewer

Customized Incentives for Energy Efficiency Program

This program involves the replacement of existing equipment or systems with new, high-efficiency equipment or systems. Mr. Roberts was responsible for reviewing energy savings calculations and performing quality assurance for all deliverables sent to PG&E and customers.

San Francisco Public Utilities Commission • Lead Engineer

Energy Engineering Services

In this role, Mr. Roberts conducted field surveys and audits, provided engineering analyses and prepared final reports for multiple City and County of San Francisco facilities. He also conducted electrification/decarbonization studies for multiple facilities. The facilities included hospitals, schools, office buildings, power plants, the San Francisco Zoo, residences, waste water treatment plants, and fire stations.

Years of Experience: 24

EDUCATION

MS, Building Design
Arizona State University

BA, Architecture
College of Architecture, Nashik, India

CONTACT

APande@trccompanies.com

Abhijeet Pande

Vice President, Research & Consulting

Abhijeet Pande brings expertise and experience in the fields of energy efficient design, building science research, and energy policy. Abhijeet applies his expertise to energy policy, energy analysis of buildings, energy efficiency program design, emerging technologies, codes and standards enhancements, and occupant comfort research/analysis. Abhijeet leads a team focusing on maximizing energy savings through developing holistic approaches that combine innovative energy efficiency solutions, emerging technologies, demand response, renewable energy generation, and other distributed energy resources.

RELEVANT EXPERIENCE

Mr. Pande leads a team of researchers, consultants and analysts who provide objective data-driven solutions to clients ranging from utilities, regulators, cities and local governments, community choice aggregators, research institutes and state and federal agencies. Mr. Pande oversee a portfolio of projects and programs related to technology commercialization, Tech-to-Market initiatives, market assessments, evaluations and codes and standards development. Current projects focus on scaling up savings by deploying advanced efficient technology packages through several California Energy Commission (CEC) Electric Program Investment Charge (EPIC) projects, NYSERDA Advanced HVAC initiative and support to several Department of Energy-funded projects for National Laboratories. The focus of his work is 'tech to market' initiatives that move innovative ideas into the marketplace through demonstrations, programs, and codes. Under Mr. Pande's leadership the Research and Consulting group is working on several strategic initiatives around building decarbonization, deep energy retrofits, zero net energy, energy efficiency as a resource and behind-the-meter distributed energy resources.

Emerging Technologies Research

Mr. Pande has led over 50 emerging technologies and research projects spanning heat pumps and other electrification technologies, electrical panel capacity, lighting, daylighting, controls, HVAC, process, simulation tools, benchmarking tools, and occupant behavior and interactions. He led development of the Emerging Technologies Roadmap for the California IOU's Statewide Emerging Technologies Program. He currently oversees TRC's work on the California Statewide Electric Emerging Technologies Program – CalNext – which is supporting the state's decarbonization goals through laboratory, field and technical studies of emerging technologies and solutions.

Codes & Standards Development

Abhijeet provides technical leadership on energy efficiency codes and standards enhancement proposals. Recent work includes technical support to the CEC for establishing a zero net energy (ZNE) pathway for California's nonresidential building code (Title 24), contributions to select measures for 2019 Title-24 CASE proposals and development of reach codes for cities of Santa Monica, San Mateo, and Palo Alto. Abhijeet led a team of consultants to provide ZNE research, policy and implementation expertise to California utilities and agencies. Recent work includes California Utilities ZNE Roadmap, Community Solar and Biomass ZNE Compliance Study and ZNE Building Design and Performance Verification Methodologies for PG&E, Santa Barbara ZNE Roadmap and Implementation, and design and engineering of ZNE and deep retrofit project development for SMUD.

CEC SB350 Support

Abhijeet developed savings targets to support California's SB350 Clean Energy and Pollution Reduction Act and a CEC EPIC funded research grant exploring the role of multifamily tenant demographics and cultural factors in energy efficiency decision-making and how that affects energy savings.

Years of Experience: 39

EDUCATION

BS, Environmental Engineering
California Polytechnic State University, San Luis Obispo

CERTIFICATIONS

- Mechanical Engineer: State of California (#M27182)

CONTACT

cchappell@trccompanies.com

Catherine Chappell, P.E.

Vice President

Catherine Chappell is a recognized leader in building energy code development and brings insight, technical expertise, and experienced leadership to codes and standards development and building decarbonization policy. Her technical work involves identifying energy savings opportunities in buildings and emerging technologies and developing energy savings estimates, technology baselines, cost assessments, and market impacts. Her management duties include supervising building science researchers, program implementation staff, survey teams, and data analysts.

RELEVANT EXPERIENCE

Pacific Gas and Electric Company • Senior Oversight
Title 24 Energy Efficiency Codes & Standards Enhancements

Since 2005, Catherine has led multiple teams in developing CASE studies to advocate for California's residential, multifamily, and nonresidential Title 24 Building Energy Efficiency Standards updates. For the 2022 and 2025 code update cycle, Catherine and her team guided the unification of multifamily low- and high-rise building energy efficiency requirements to improve clarity and stringency of the energy efficiency requirements for all multifamily buildings. She manages the team, leveraging their experience and relationships accrued through several decades of code development engagement.

Various Clients • Senior Oversight
Reach Code Development

Catherine supports various clients and California jurisdictions in developing reach codes for residential and commercial, new construction and existing buildings, with a focus on electrification, energy efficiency, and resiliency. Catherine and her team support individual jurisdictions in establishing reach code policies and targets. The team identifies and analyzes cost-effective packages of energy efficiency, electrification, and solar PV measures, from both a societal and customer perspective.

Southern California Edison • Senior Oversight
Energy Codes & Standard Technical Support

Catherine oversees a team of technical staff supporting SCE's code and standards activity focused on building decarbonization including technical research, roadmap development, local reach code support, building energy simulation analysis and software research and program planning and coordination. Specific projects include nonresidential building electrification and efficiency measures cost-effectiveness analysis, focusing on heat pump technologies.

Years of Experience: 29

EDUCATION

BAE, Architectural Engineering
The Pennsylvania State University

CERTIFICATIONS

- Registered Professional Engineer (CO #0045406)

CONTACT

mmutmansky@trccompanies.com

Michael Mutmansky, PE

Associate Technical Director

Michael Mutmansky is an accomplished industry thought leader in energy efficiency for the built environment. As a design professional, he has broad experience in commercial, retail, institutional, and governmental design projects. In addition, he is an experienced building energy researcher. Michael is an author and coauthor of a variety of lighting-energy related research papers. More recently, Michael has worked on electrification projects to guide buildings into a low carbon future.

RELEVANT EXPERIENCE

CalNEXT • Associate Technical Director
Residential Electrification Panel Decision Tool (Ongoing)

Michael is working on a project to analyze and develop a pair of guidance tools for contractors and program developers to help understand the implications of residential home electrification based on the calculations associated with the electrical panel and the National Electric Code (NEC). This tool sizes electrical loads for future appliances to determine the panel rating needed for the property and methods to reduce the load to avoid a required panel and service change. The second tool applies census data to provide information on the likely quantity that will occur in the focused region to aid in developing and planning for program measures and budgets.

CA Statewide IOU Codes & Standards Team • Associate Technical Director
2022 CalGREEN Electric-Ready Code Language Development

Michael worked on a project to analyze and develop code language for electrification efforts that include “electric-ready” accommodations in the code for heat pump water heaters, heat pump space heaters, electric ranges, and electric dryers in nonresidential, multifamily, and residential situations. This project involved sizing equipment for the future electric condition to determine what future needs are best accommodated in the existing building electrical system to avoid high conversion costs in the future.

California Energy Commission • Associate Technical Director
Senate Bill 350 Energy Analysis

This project supports the CEC with technical analysis and spreadsheet modeling to help track the requirements for energy efficiency improvements mandated by SB350 in 2015. Michael focused on portions of the modeling to track savings associated with the CA energy code (Title 24, Part 6). As part of this work, recent changes to encourage carbon reduction through electrification are impacting these calculations and has become an important part of the modeling as industry shifts from energy efficiency towards carbon reduction.

Southern California Edison • Associate Technical Director
Residential Electrification Cost Impacts Study

Michael worked on a project to collect and analyze the costs and technical details needed to upgrade existing residential electrical service to meet the increased electrical requirements needed to allow full electrification of homes in the greater Los Angeles area. This project involved an RS Means analysis, interviews with contractors, and simulated project quotes to collect estimates for the range of tasks associated with upgrading the electrical service to typical homes.

Pacific Gas and Electric Company • Title 24 CASE Lead
California Statewide Utility Codes and Standards (CASE)

Michael supports CASE measure development through market research, energy savings and cost-effectiveness analysis, stakeholder engagement, and report development since the 2005 revision cycle. He serves as a subject matter expert on lighting topics and supports coordination across multifamily CASE measures. Previously, Michael was the CASE lead for nonresidential indoor lighting revisions and was instrumental in the development of original nonresidential outdoor lighting code sections in 2005, 2008, and 2011. Most recently, his work continues with lighting in the multifamily section of the code.

California Energy Commission • Lead Technical Researcher
Leading in Los Angeles (LA) EPIC Research Project

Michael led the technical research in the Leading in LA project, which explored the possibility of combining advanced lighting systems with automated shading systems for commercial office applications as a project led by the New Buildings Institute and funded through the EPIC grants from the California Energy Commission. This project showed the savings potential for lighting, shading and HVAC integration through the installation of these systems in approximately 200,000 sqft of office space in the LA basin area.

Southern California Edison • Lead Researcher, Title 20 ***Outdoor Lighting Energy Savings Analysis & Feasibility Study***

Michael led the research into the possibility of proposing new Title 20 measures for outdoor lighting to control the overall luminaire efficacy and application efficiency for outdoor and roadway lighting in the state.

Years of Experience: 13

EDUCATION

PhD, Building Science
University of California, Berkeley

MS, Architectural Engineering
University of Nebraska

BS, Mechanical Engineering
Tongji University, China

CERTIFICATIONS

- Professional Mechanical Engineer: California M 38846
- ASHRAE: Residential Building Committee Member, Past chair TC 4.1, corresponding member SSPC 189.1
- International Building Performance Simulation Association

CONTACT

JFeng@trccompanies.com

Jingjuan Dove Feng

Associate Director

Jingjuan Feng is an Associate Director at TRC within the Research and Consulting group, leading Technology Assessment and Advancement. She has 13 years of experience in energy policy, building decarbonization, and technology research. Her recent work has been centered on validating and advancing emerging building technologies, assessing their market potential, and navigating policy frameworks to facilitate large-scale adoption. Dr. Feng has successfully overseen numerous tech-to-market projects funded by state and federal agencies, including the CalNEXT program, the California Energy Commission's EPIC program, the Department of Energy, and NYSERDA.

RELEVANT EXPERIENCE

Codes & Standards Improvement

Dr. Feng's codes and standards work focuses on identifying and evaluating all-electric design solutions for multifamily buildings and commercial buildings to achieve California's decarbonization goals. She recently led multiple multifamily code development adopted by the 2022 and 2025 Title 24 Energy Code and is a leader in existing and new construction local reach code development efforts. Her technical responsibility includes overseeing energy efficiency and load flexibility measure design, modeling analysis, and cost data collection.

Building Science Research and Tech-to-Market

Dr. Feng's work has focused on emerging HVAC and domestic hot water technologies and whole building solutions. She is currently leading several projects on topics that cover load flexibility control for residential space heating heat pump and heat pump water heater, low-GWP refrigerant heat pump for residential buildings, phase change material for residential home envelope retrofit, and low-cost open-source control platform for dual-fuel control application in small commercial buildings. The TRC scopes of these projects include market characterization, field demonstration to evaluate energy, utility cost and GHG emission in homes in disadvantaged communities, and commercialization pathway research.

Commercial Building Engineering and Commissioning

Dr. Feng has design engineering experience on a wide variety of building types, including Class A offices, laboratories, schools, and

data centers. Many projects involved existing building retrofit and achieved deep energy savings and LEED certification. She worked with clients and the design team to design cost effective and energy efficient mechanical, control, and plumbing systems for their buildings. Dr. Feng also performed energy modeling and life-cycle analyses, worked with contractors on construction administration, commissioning and performance verifications, and provided training workshops to facility engineers.

Years of Experience: 17

EDUCATION

Energy Management Technician
Lane Community College

CERTIFICATIONS

- Certified M&V Professional (CMVP)
- LEED AP
- Oregon Association of Professional Energy Managers

CONTACT

jgreen@trccompanies.com

Jacob Green

Project Manager

Jacob Green has experience in energy audits, retro-commissioning, renewable energy sources, and energy savings calculations. He has analysis and hands-on field experience with a variety of energy technologies, including emerging technologies in energy efficient lighting. Jacob installs temporary power metering in support of custom incentive programs, demonstration projects, and utility load profile development. He is responsible for developing metering plans, establishing site-specific protocols for safe meter installations, procuring and configuring meters, installing and removing meters, and transmittal of trend data. He is also responsible for field training TRC staff in NFPA 70E installation practices.

RELEVANT EXPERIENCE

Pacific Gas & Electric Company (PG&E) • Lead Engineer

Custom Incentive Program

Jacob installs temporary power metering in support of PG&E's custom incentive program. He is responsible for working with PG&E's field engineers to develop metering plans, establishing site specific protocols for safe meter installations, procuring and configuring meters, installing and removing meters, and transmittal of trend data. He is also responsible for field training TRC staff in NFPA 70E installation practices.

PG&E • Field Lead

Emerging Technology Assessments

Jacob was the lead field inspector for LED Office Lighting and Advanced Lighting Control System, Project ET11PGE3251. He was both lead field inspector and lead report author for Advanced Lighting Control System (ALCS) in an Office Building, Project ET12PGE1031, April 2013. He was responsible for the development and execution of monitoring plans, field investigation, and data analysis for the two emerging technology evaluation projects.

City of San Jose • Engineer

Retro-commissioning Audits

Jacob supported the two-phased retro-commissioning audits at six libraries in the City of San Jose. He performed HVAC building audits which included performing spot measurements on AHUs for kW, amps, and temperatures (supply, return, and discharge air and CHW

and HHW). He accessed the energy management system to determine building/HVAC operation and schedule, and was responsible for deciphering all trend data

PG&E • Field Lead

Retro-commissioning Program

Jacob is responsible for the development and analysis of retro-commissioning and energy conservation projects and systems for commercial, industrial, and governmental facilities. As a field engineer, he provides support for all phases of PG&E retro-commissioning projects.

Years of Experience: 37

EDUCATION

MBA
Southern Illinois University

BS, Industrial Engineering
University of Missouri

CERTIFICATIONS

- Power Systems Engineering, UC San Diego Extension
- Certified Energy Manager (CEM)

CONTACT

mgraessle@trccompanies.com

Myron Graessle

Director

Myron Graessle is an expert in the startup and implementation of complex technical programs for electricity customers. He has managed utility and distributed energy projects with expertise in energy storage, demand response, and energy efficiency. His technical industry experience is balanced with real-world project management skills managing programs many of which are first-time implementations of new processes and technologies. He communicates effectively and can translate complex technical information into non-technical language.

RELEVANT EXPERIENCE

San Diego Gas & Electric (SDG&E) • Program Manager

CEMS Energy Efficiency for Large Commercial Customers

Myron manages TRC's program to recruit customers and then incentivize and validate energy efficiency projects for SDG&E's large commercial customers.

Pacific Gas & Electric (PG&E) • Program Manager

Owner's Engineer Services – Remote Grid Initiative

Myron managed TRC's engineering support for PG&E as they designed and implemented their first remote grids. These microgrids, comprising solar, battery storage, and propane generation, allowed PG&E to deenergize primary distribution circuits in areas of high fire risk.

Marin Clean Energy (MCE) • Program Manager

Behind-the-Meter Energy Storage Program

Myron led the implementation of MCE's behind-the-meter battery energy storage program that managed the lifecycle for residential and commercial customers to install batteries. Battery assets were connected to a distributed energy resource management system (DERMS) to function as a virtual power plant. The program deployed customer-sited storage throughout MCE's four-county service area over a two-year period.

Sacramento Municipal Utility District (SMUD) • Program Manager

Demand Response Management

Myron managed implementation of the SEEload demand response management system for SMUD. The program implementation focuses on deploying smart thermostats and controlling EV charging stations for customers participating in traditional demand response as well as pricing/time-of-use program.

OTHER EXPERIENCE

Southern California Edison • Program Manager
Energy Efficiency for Local Capacity Requirements

Myron manages TRC's implementation of energy efficiency solutions through a trade ally network. Projects will fulfill the Southern California Edison Local Capacity Requirements.

Arizona Public Service • Program Manager
Distribution Grid Energy Storage

Myron managed engineering, procurement, and construction of the GridStar battery energy storage system for deployment on a distribution feeder with a high solar penetration. He executed engineering use cases (kW, kVAR, battery charge management, round-trip efficiency, etc.) to support acceptance testing.

Joe C. Ablay, PE, CEM, GBE, CEA, Mechanical and Plumbing Engineer. Joe C. Ablay is the founding president of ICI Engineers, Inc. (ICI). His 35 years of experience encompasses multiple, state-wide projects such as educational, transportation, healthcare, commercial facilities, amusement parks, county building, and US-Air Force bases. Prior to founding (ICI) he was involved with major performance contracting organizations and developed several state facilities project programs that has been very successful in energy savings and infrastructure assessment, modernization and upgrades. He has experiences in comprehensive facility energy audit, commissioning process development, energy conservation measures development, system design, energy analysis & modeling, and engineering. He has extensive experience in working with authority having jurisdiction on projects such as OSHPD/HCAI, DSA, AFCEE Title 1 & 2, CA Title 24 counties and cities.

EDUCATION

- B.S. in Mechanical Engineering, University of the East, Manila, Philippines
- Executive Program in Management, The Anderson School of Business, UCLA

REGISTRATIONS

- Professional Mechanical Engineer: California, Nevada, Arizona, Utah, Hawaii, Connecticut, Washington, Guam, Texas, North Dakota, Washington DC, Florida and NCEES Record Holder

EMPLOYMENT HISTORY

Principal, ICI Engineers, Inc.	2004-Present
Sr. Energy Engineer III, Siemens Building Technologies	1999 to 2004
Sr. Mechanical Engineer, Edison Source, an SCE Company	1997 to 1999
Sr. Mechanical Engineer/Senior Associate, Syska & Hennessy Group	1990 to 1997

EXPERIENCE

- ICI Engineers, Inc., 2013 to Present

  - Miramar Tower Senior Residences, Los Angeles, CA
    Replacement of gas water heater with new heat pump water heaters and controls upgrades.
  - The Grove Senior Apartments, Ontario, CA
    Replacement of gas water heater with new heat pump water heaters and controls upgrades.
  - Sacramento Manor Senior Housing, Sacramento CA
    Demolition of central domestic gas boiler and replace domestic heating with heat pump water heaters. Demolition of chiller plant and replace space cooling and heating with split heat pump units for 260 unit housing.
  - UCLA Sta. Monica University Medical Center (SMUMC), Santa Monica, CA
    Air Handling Unit (AHU-7) replacement with 41,000-CFM capacity.
  - Civic Center, City of Inglewood, CA
    Replacement of cooling towers and related condenser pumps and upgrade EMS controls.

Hugo Villanueva has over 25 years of professional electrical engineering, project management, and construction experience relating to the electrical building industry. Over the years, he has designed electrical systems for low- and high-rise buildings, tenant improvement projects, manufacturing facilities, computer centers, airport operations, colleges, elementary and high schools, industrial facilities, healthcare and telecommunication facilities. Mr. Villanueva was recently involved in educational master planning of infrastructure systems for several K-12 school districts and community colleges. His more recent work also includes electrical designs for several new healthcare, commercial, transportation, government, institutional, and municipal facilities. He has extensive experience in working with authority having jurisdiction on projects such as HCAI, DSA, AFCEE Title 1 & 2, CA Title 24 counties and cities, and disabled access requirements of the Americans with Disabilities Act (ADA).

EDUCATION

- B.S. in Electrical Engineering, 1985, Negros Occidental, Philippines
- Registered Professional Electrical Engineer in California, Nevada, Arizona, Guam
- NCEES Record Holder

REGISTRATIONS

- National Society of Professional Engineers (NSPE)
- Institute of Electrical and Electronic Engineers (IEEE)

EXPERIENCE

- ICI Engineers, Inc., 2013 to Present

  - Miramar Tower Senior Residences, Los Angeles, CA
    Replacement of gas water heater with new heat pump water heaters and controls upgrades

  - The Grove Senior Apartments, Ontario, CA
    Replacement of gas water heater with new heat pump water heaters and controls upgrades

  - Sacramento Manor Senior Housing, Sacramento CA
    Demolition of central domestic gas boiler and replace domestic heating with heat pump water heaters. Demolition of chiller plant and replace space cooling and heating with split heat pump units for 260-unit housing.

  - UCLA Sta. Monica University Medical Center (SMUMC), Santa Monica, CA
    Air Handling Unit (AHU-7) replacement with 41,000-CFM capacity.

  - Los Angeles Unified School District (LAUSD), Los Angeles, CA
    Upgrade and retrofit of electrical system for high school and elementary buildings.

Dante Flores, PE
Senior Electrical Engineer
Office: (909) 444-1800
E-mail: dante.flores@iciengineers.com

Position: Senior Electrical Engineer

Mr. Flores has over 30 years of professional electrical engineering design experience on project such as K-12 & higher education facilities, county building facilities and other commercial facilities. Over the years, he has performed electrical distribution design including cost estimates, specifications which include lighting, power, security and fire alarm system. He performed load calculation & selection luminaires & equipment. Performed peer review design drawings from District Consultants, submit plan to DSA and assist & coordinate with other District Staff, Architects, Engineers & Project Managers and School officials.

Prior to joining ICI Engineers, he has 20+ years- experience with the Los Angeles Unified School District as Associate Electrical Engineer.

EDUCATION

- B.S. in Electrical Engineering, 1976, Saint Louis University, Baguio City, Philippines
- Registered Professional Electrical Engineer in California

MEMBERSHIP

- National Society of Professional Engineers (NSPE)
- Institute of Electrical and Electronic Engineers (IEEE)

EXPERIENCE

- Senior Designer - ICI Engineers, Inc., 2019 to Present
    - Sacramento Manor Senior Apartments – MEPS Design
    - Miramar Tower Senior Residences – Plumbing Design
    - The Grove Senior Apartments – MEPS Design
    - LA Metro Crenshaw/LAX Rail Yard – Plumbing and Process
    - UCLA – Santa Monica Medical Center - various TI projects
    - UCLA – Ronald Reagan University Medical Center – various TI projects
    - Emerald Vista Center – Full Skilled Nursing Facility, Indio, CA
    - Sharp Memorial Hospital and Medical Center
- Associate Electrical Engineer - Los Angeles Unified School District (LAUSD), 1986-1993 to 1997 – 2019
- Senior Electrical Designer – TRW Space and Electronics, 1995-1997

Appendix 2

Sample Contract with TRC Redlines

Agreement No. _____

AGREEMENT BETWEEN THE COUNTY OF SAN MATEO AND [Contractor name]

This Agreement is entered into this _____ day of _____ , 20_____, by and between the County of San Mateo, a political subdivision of the state of California, hereinafter called "County," and ~~[Insert contractor legal name here],~~ TRC Engineers, Inc., hereinafter called "Contractor."

* * *

Whereas, pursuant to Section 31000 of the California Government Code, County may contract with independent contractors for the furnishing of such services to or for County or any Department thereof; and

Whereas, it is necessary and desirable that Contractor be retained for the purpose of [Enter information here].

Now, therefore, it is agreed by the parties to this Agreement as follows:

1. Exhibits and Attachments

The following exhibits and attachments are attached to this Agreement and incorporated into this Agreement by this reference:

Exhibit A—Services
Exhibit B—Payments and Rates
Attachment H—HIPAA Business Associate Requirements
Attachment I—§ 504 Compliance
Attachment IP – Intellectual Property

2. Services to be performed by Contractor

In consideration of the payments set forth in this Agreement and in Exhibit B, Contractor shall perform services for County in accordance with the terms, conditions, and specifications set forth in this Agreement and in Exhibit A.

3. Payments

In consideration of the services provided by Contractor in accordance with all terms, conditions, and specifications set forth in this Agreement and in Exhibit A, County shall make payment to Contractor based on the rates and in the manner specified in Exhibit B. County reserves the right to withhold payment if County determines that the quantity or quality of the work performed is unacceptable. In no event shall County's total fiscal obligation under this Agreement exceed [write out amount] ($Amount). In the event that the County makes any advance payments, Contractor agrees to refund any amounts in excess of the amount owed by the County at the time of contract termination or expiration. Contractor is not entitled to payment for work not performed as required by this agreement.

4. Term

Subject to compliance with all terms and conditions, the term of this Agreement shall be from [Month and day] , 20[last 2 digits of start year], through [Month and day] , 20[last 2 digits of end year].

5. Termination

This Agreement may be terminated by Contractor or by the [Title of County Department Head] or his/her designee at any time without a requirement of good cause upon thirty (30) days' advance written notice to the other party. Subject to availability of funding, Contractor shall be entitled to receive payment for work/services provided prior to termination of the Agreement. Such payment shall be that prorated portion of the full payment determined by comparing the work/services actually completed to the work/services required by the Agreement.

County may terminate this Agreement or a portion of the services referenced in the Attachments and Exhibits based upon the unavailability of Federal, State, or County funds by providing written notice to Contractor as soon as is reasonably possible after County learns of said unavailability of outside funding.

County may terminate this Agreement for cause. In order to terminate for cause, County must first give Contractor notice of the alleged breach. Contractor shall have five business days after receipt of such notice to respond and a total of ten calendar days after receipt of such notice to cure the alleged breach. If Contractor fails to cure the breach within this period, County may immediately terminate this Agreement without further action. The option available in this paragraph is separate from the ability to terminate without cause with appropriate notice described above. In the event that County provides notice of an alleged breach pursuant to this section, County may, in extreme circumstances, immediately suspend performance of services and payment under this Agreement pending the resolution of the process described in this paragraph. County has sole discretion to determine what constitutes an extreme circumstance for purposes of this paragraph, and County shall use reasonable judgment in making that determination.

6. Contract Materials

At the end of this Agreement, or in the event of termination, all finished or unfinished documents, data, studies, maps, photographs, reports, and other written materials (collectively referred to as "contract materials") prepared by Contractor under this Agreement shall become the property of County and shall be promptly delivered to County. Upon termination, Contractor may make and retain a copy of such contract materials if permitted by law.

7. Relationship of Parties

Contractor agrees and understands that the work/services performed under this Agreement are performed as an independent contractor and not as an employee of County and that neither

Contractor nor its employees acquire any of the rights, privileges, powers, or advantages of County employees.

8. **Hold Harmless**

a. General Hold Harmless

Contractor shall indemnify and save harmless County and its designated officers, agents, employees, and servants from all third-party claims, suits, or actions of every name, kind, and description resulting from this Agreement, the performance of any work or services required of Contractor under this Agreement, or payments made pursuant to this Agreement brought for, or on account of, any of the following:

(A) injuries to or death of any person, including Contractor or its employees/officers/agents;

(B) damage to any property of any kind whatsoever and to whomsoever belonging;

(C) any sanctions, penalties, or claims of damages resulting from Contractor's failure to comply, if applicable, with the requirements set forth in the Health Insurance Portability and Accountability Act of 1996 (HIPAA) and all Federal regulations promulgated thereunder, as amended; or

(D) any other loss or cost, including but not limited to that caused by the concurrent active or passive negligence of County and/or its officers, agents, employees, or servants. However, Contractor's duty to indemnify and save harmless under this Section shall not apply to injuries or damage for which County has been found in a court of competent jurisdiction to be solely liable by reason of its own negligence or willful misconduct.

The duty of Contractor to indemnify and save harmless as set forth by this Section shall include the duty to defend as set forth in Section 2778 of the California Civil Code.

Notwithstanding anything to the contrary in this agreement, Contractor and County waive any and all claims against each other for incidental, consequential, special, multiple, and punitive damages arising out of or relating to this Agreement. This waiver includes, but is not limited to, loss of profit, loss of business, loss of income, loss of reputation or any other consequential damage that either Party may incur from any cause of action including negligence, strict liability, contract breach, and strict or implied breach of warranty.

b. Intellectual Property Indemnification

Contractor hereby certifies that it owns, controls, and/or licenses and retains all right, title, and/or interest in and to any intellectual property it uses in relation to this Agreement, including the design, look, feel, features, source code, content, and/or other technology relating to any part of the services it provides under this Agreement and including all related patents, inventions, trademarks, and copyrights, all applications therefor, and all trade names, service

marks, know how, and trade secrets (collectively referred to as "IP Rights") except as otherwise noted by this Agreement.

Contractor warrants that the services it provides under this Agreement do not infringe, violate, trespass, or constitute the unauthorized use or misappropriation of any IP Rights of any third party. Contractor shall defend, indemnify, and hold harmless County from and against all liabilities, costs, damages, losses, and expenses (including reasonable attorney fees) arising out of or related to any claim by a third party that the services provided under this Agreement infringe or violate any third-party's IP Rights provided any such right is enforceable in the United States. Contractor's duty to defend, indemnify, and hold harmless under this Section applies only provided that: (a) County notifies Contractor promptly in writing of any notice of any such third-party claim; (b) County cooperates with Contractor, at Contractor's expense, in all reasonable respects in connection with the investigation and defense of any such third-party claim; (c) Contractor retains sole control of the defense of any action on any such claim and all negotiations for its settlement or compromise (provided Contractor shall not have the right to settle any criminal action, suit, or proceeding without County's prior written consent, not to be unreasonably withheld, and provided further that any settlement permitted under this Section shall not impose any financial or other obligation on County, impair any right of County, or contain any stipulation, admission, or acknowledgement of wrongdoing on the part of County without County's prior written consent, not to be unreasonably withheld); and (d) should services under this Agreement become, or in Contractor's opinion be likely to become, the subject of such a claim, or in the event such a third party claim or threatened claim causes County's reasonable use of the services under this Agreement to be seriously endangered or disrupted, Contractor shall, at Contractor's option and expense, either: (i) procure for County the right to continue using the services without infringement or (ii) replace or modify the services so that they become non-infringing but remain functionally equivalent.

Notwithstanding anything in this Section to the contrary, Contractor will have no obligation or liability to County under this Section to the extent any otherwise covered claim is based upon: (a) any aspects of the services under this Agreement which have been modified by or for County (other than modification performed by, or at the direction of, Contractor) in such a way as to cause the alleged infringement at issue; and/or (b) any aspects of the services under this Agreement which have been used by County in a manner prohibited by, or inconsistent with, this Agreement.

The duty of Contractor to indemnify and save harmless as set forth by this Section shall include the duty to defend as set forth in Section 2778 of the California Civil Code.

9. Assignability and Subcontracting

Contractor shall not assign this Agreement or any portion of it to a third party or subcontract with a third party to provide services required by Contractor under this Agreement without the prior written consent of County. Any such assignment or subcontract without County's prior written consent shall give County the right to automatically and immediately terminate this Agreement without penalty or advance notice.

10. Insurance

a. General Requirements

Contractor shall not commence work or be required to commence work under this Agreement unless and until all insurance required under this Section has been obtained and such insurance has been approved by County's Risk Management, and Contractor shall use diligence to obtain such insurance and to obtain such approval. Contractor shall furnish County with certificates of insurance evidencing the required coverage, and there shall be a specific contractual liability endorsement extending Contractor's coverage to include the contractual liability assumed by Contractor pursuant to this Agreement. These certificates shall specify or be endorsed to provide that thirty (30) days' notice must be given, in writing, to County of any pending change in the limits of liability or of any cancellation or modification of the policy.

b. Workers' Compensation and Employer's Liability Insurance

Contractor shall have in effect during the entire term of this Agreement workers' compensation and employer's liability insurance providing full statutory coverage. In signing this Agreement, Contractor certifies, as required by Section 1861 of the California Labor Code, that (a) it is aware of the provisions of Section 3700 of the California Labor Code, which require every employer to be insured against liability for workers' compensation or to undertake self-insurance in accordance with the provisions of the Labor Code, and (b) it will comply with such provisions before commencing the performance of work under this Agreement.

c. Liability Insurance

Contractor shall take out and maintain during the term of this Agreement such bodily injury liability and property damage liability insurance as shall protect Contractor and all of its employees/officers/agents while performing work covered by this Agreement from any and all claims for damages for bodily injury, including accidental death, as well as any and all claims for property damage which may arise from Contractor's operations under this Agreement, whether such operations be by Contractor, any subcontractor, anyone directly or indirectly employed by either of them, or an agent of either of them. Such insurance shall be combined single limit bodily injury and property damage for each occurrence and shall not be less than the amounts specified below:

(a) Comprehensive General Liability.....$1,000,000

(b) Motor Vehicle Liability Insurance.....$1,000,000

(c) Professional Liability.....$1,000,000

County and its designated officers, agents, employees, and servants shall be named as additional insured on any such policies of insurance, which shall also contain a provision that (a) the insurance afforded thereby to County and its officers, agents, employees, and servants shall be primary insurance to the full limits of liability of the policy and (b) if the County or its officers,

agents, employees, and servants have other insurance against the loss covered by such a policy, such other insurance shall be excess insurance only.

In the event of the breach of any provision of this Section, or in the event any notice is received which indicates any required insurance coverage will be diminished or canceled, County, at its option, may, notwithstanding any other provision of this Agreement to the contrary, immediately declare a material breach of this Agreement and suspend all further work and payment pursuant to this Agreement.

11. Compliance With Laws

All services to be performed by Contractor pursuant to this Agreement shall be performed in accordance with all applicable Federal, State, County, and municipal laws, ordinances, regulations, and executive orders, including but not limited to the Health Insurance Portability and Accountability Act of 1996 (HIPAA) and the Federal Regulations promulgated thereunder, as amended (if applicable), the Business Associate requirements set forth in Attachment H (if attached), the Americans with Disabilities Act of 1990, as amended, and Section 504 of the Rehabilitation Act of 1973, which prohibits discrimination on the basis of disability in programs and activities receiving any Federal or County financial assistance, as well as any required economic or other sanctions imposed by the United States government or under state law in effect during the term of the Agreement. Such services shall also be performed in accordance with all applicable ordinances and regulations, including but not limited to appropriate licensure, certification regulations, provisions pertaining to confidentiality of records, and applicable quality assurance regulations. In the event of a conflict between the terms of this Agreement and any applicable State, Federal, County, or municipal law, regulation, or executive order, the requirements of the applicable law, regulation, or executive order will take precedence over the requirements set forth in this Agreement.

Further, Contractor certifies that it and all of its subcontractors will adhere to all applicable provisions of Chapter 4.107 of the San Mateo County Ordinance Code, which regulates the use of disposable food service ware. Accordingly, Contractor shall not use any non-recyclable plastic disposable food service ware when providing prepared food on property owned or leased by the County and instead shall use biodegradable, compostable, reusable, or recyclable plastic food service ware on property owned or leased by the County.

Contractor will timely and accurately complete, sign, and submit all necessary documentation of compliance.

12. Non-Discrimination and Other Requirements

a. General Non-discrimination

No person shall be denied any services provided pursuant to this Agreement (except as limited by the scope of services) on the grounds of race, color, national origin, ancestry, age, disability (physical or mental), sex, sexual orientation, gender identity, marital or domestic partner status,

religion, political beliefs or affiliation, familial or parental status (including pregnancy), medical condition (cancer-related), military service, or genetic information.

b. Equal Employment Opportunity

Contractor shall ensure equal employment opportunity based on objective standards of recruitment, classification, selection, promotion, compensation, performance evaluation, and management relations for all employees under this Agreement. Contractor's equal employment policies shall be made available to County upon request.

c. Section 504 of the Rehabilitation Act of 1973

Contractor shall comply with Section 504 of the Rehabilitation Act of 1973, as amended, which provides that no otherwise qualified individual with a disability shall, solely by reason of a disability, be excluded from the participation in, be denied the benefits of, or be subjected to discrimination in the performance of any services this Agreement. This Section applies only to contractors who are providing services to members of the public under this Agreement.

d. Compliance with County's Equal Benefits Ordinance

Contractor shall comply with all laws relating to the provision of benefits to its employees and their spouses or domestic partners, including, but not limited to, such laws prohibiting discrimination in the provision of such benefits on the basis that the spouse or domestic partner of the Contractor's employee is of the same or opposite sex as the employee.

e. Discrimination Against Individuals with Disabilities

The nondiscrimination requirements of 41 C.F.R. 60-741.5(a) are incorporated into this Agreement as if fully set forth here, and Contractor and any subcontractor shall abide by the requirements of 41 C.F.R. 60–741.5(a). This regulation prohibits discrimination against qualified individuals on the basis of disability and requires affirmative action by covered prime contractors and subcontractors to employ and advance in employment qualified individuals with disabilities.

f. History of Discrimination

Contractor certifies that no finding of discrimination has been issued in the past 365 days against Contractor by the Equal Employment Opportunity Commission, the California Department of Fair Employment and Housing, or any other investigative entity. If any finding(s) of discrimination have been issued against Contractor within the past 365 days by the Equal Employment Opportunity Commission, the California Department of Fair Employment and Housing, or other investigative entity, Contractor shall provide County with a written explanation of the outcome(s) or remedy for the discrimination prior to execution of this Agreement. Failure to comply with this Section shall constitute a material breach of this Agreement and subjects the Agreement to immediate termination at the sole option of the County.

g. Reporting; Violation of Non-discrimination Provisions

Contractor shall also report to the County the filing by any person in any court any complaint of discrimination or the filing by any person of any and all charges with the Equal Employment Opportunity Commission, the Fair Employment and Housing Commission, or any other entity charged with the investigation of allegations of discrimination within seventy-five (75) days of such filing, provided that within such seventy-five (75) days such entity has not notified contractor that such charges are dismissed or otherwise unfounded. Such notification to County shall include a general description of the allegations and the nature of specific claims being asserted. Contractor shall provide County with a statement regarding how it responded to the allegations within sixty (60) days of its response and shall update County regarding the nature of the final resolution of such allegations.

Violation of the non-discrimination provisions of this Agreement shall be considered a breach of this Agreement and subject the Contractor to penalties, to be determined by the County Executive Officer, including but not limited to the following:

i. termination of this Agreement;
ii. disqualification of the Contractor from being considered for or being awarded a County contract for a period of up to 3 years;
iii. liquidated damages of $2,500 per violation; and/or
iv. imposition of other appropriate contractual and civil remedies and sanctions, as determined by the County Executive Officer.

To effectuate the provisions of this Section, the County Executive Officer shall have the authority to offset all or any portion of the amount described in this Section against amounts due to Contractor under this Agreement or any other agreement between Contractor and County.

h. Compliance with Living Wage Ordinance

As required by Chapter 2.88 of the San Mateo County Ordinance Code, Contractor certifies all contractor(s) and subcontractor(s) obligated under this contract shall fully comply with the provisions of the County of San Mateo Living Wage Ordinance, including, but not limited to, paying all Covered Employees the current Living Wage and providing notice to all Covered Employees and Subcontractors as required under the Ordinance.

13. Compliance with County Employee Jury Service Ordinance

Contractor shall comply with Chapter 2.85 of the County's Ordinance Code, which states that Contractor shall have and adhere to a written policy providing that its employees, to the extent they are full-time employees and live in San Mateo County, shall receive from the Contractor, on an annual basis, no fewer than five days of regular pay for jury service in San Mateo County, with jury pay being provided only for each day of actual jury service. The policy may provide that such employees deposit any fees received for such jury service with Contractor or that the Contractor may deduct from an employee's regular pay the fees received for jury service in San Mateo County. By signing this Agreement, Contractor certifies that it has and adheres to a policy consistent with Chapter 2.85. For purposes of this Section, if Contractor has no employees in San Mateo County, it is sufficient for Contractor to provide the following written

statement to County: "For purposes of San Mateo County's jury service ordinance, Contractor certifies that it has no full-time employees who live in San Mateo County. To the extent that it hires any such employees during the term of its Agreement with San Mateo County, Contractor shall adopt a policy that complies with Chapter 2.85 of the County's Ordinance Code." The requirements of Chapter 2.85 do not apply unless this Agreement's total value listed in the Section titled "Payments", exceeds two-hundred thousand dollars ($200,000); Contractor acknowledges that Chapter 2.85's requirements will apply if this Agreement is amended such that its total value exceeds that threshold amount.

14. Retention of Records; Right to Monitor and Audit

(a) Contractor shall maintain all required records relating to services provided under this Agreement for three (3) years after County makes final payment and all other pending matters are closed, and Contractor shall be subject to the examination and/or audit by County, a Federal grantor agency, and the State of California.

(b) Contractor shall comply with all program and fiscal reporting requirements set forth by applicable Federal, State, and local agencies and as required by County.

(c) Contractor agrees upon reasonable notice to provide to County, to any Federal or State department having monitoring or review authority, to County's authorized representative, and/or to any of their respective audit agencies access to and the right to examine all records and documents necessary to determine compliance with relevant Federal, State, and local statutes, rules, and regulations, to determine compliance with this Agreement, and to evaluate the quality, appropriateness, and timeliness of services performed.

15. Merger Clause; Amendments

This Agreement, including the Exhibits and Attachments attached to this Agreement and incorporated by reference, constitutes the sole Agreement of the parties to this Agreement and correctly states the rights, duties, and obligations of each party as of this document's date. In the event that any term, condition, provision, requirement, or specification set forth in the body of this Agreement conflicts with or is inconsistent with any term, condition, provision, requirement, or specification in any Exhibit and/or Attachment to this Agreement, the provisions of the body of the Agreement shall prevail. Any prior agreement, promises, negotiations, or representations between the parties not expressly stated in this document are not binding. All subsequent modifications or amendments shall be in writing and signed by the parties.

16. Controlling Law; Venue

The validity of this Agreement and of its terms, the rights and duties of the parties under this Agreement, the interpretation of this Agreement, the performance of this Agreement, and any other dispute of any nature arising out of this Agreement shall be governed by the laws of the State of California without regard to its choice of law or conflict of law rules. Any dispute arising out of this Agreement shall be venued either in the San Mateo County Superior Court or in the United States District Court for the Northern District of California.

17. Notices

Any notice, request, demand, or other communication required or permitted under this Agreement shall be deemed to be properly given when both: (1) transmitted via facsimile to the telephone number listed below or transmitted via email to the email address listed below; and (2) sent to the physical address listed below by either being deposited in the United States mail, postage prepaid, or deposited for overnight delivery, charges prepaid, with an established overnight courier that provides a tracking number showing confirmation of receipt.

In the case of County, to:

Name/Title: [insert]
Address: [insert]
Telephone: [insert]
Facsimile: [insert]
Email: [insert]

In the case of Contractor, to:

Name/Title: [insert]
Address: [insert]
Telephone: [insert]
Facsimile: [insert]
Email: [insert]

18. Electronic Signature

Both County and Contractor wish to permit this Agreement and future documents relating to this Agreement to be digitally signed in accordance with California law and County's Electronic Signature Administrative Memo. Any party to this Agreement may revoke such agreement to permit electronic signatures at any time in relation to all future documents by providing notice pursuant to this Agreement.

19. Payment of Permits/Licenses

Contractor bears responsibility to obtain any license, permit, or approval required from any agency for work/services to be performed under this Agreement at Contractor's own expense prior to commencement of said work/services. Failure to do so will result in forfeit of any right to compensation under this Agreement.

20. Reimbursable Travel Expenses

To the extent that this Agreement authorizes reimbursements to Contractor for travel, lodging, and other related expenses as defined in this section, the Contractor must comply with all the terms of this section in order to be reimbursed for travel.

a. Estimated travel expenses must be submitted to authorized County personnel for advanced written authorization before such expenses are incurred. Significant differences between estimated and actual travel expenses may be grounds for denial of full reimbursement of actual travel expenses.

b. Itemized receipts (copies accepted) for all reimbursable travel expenses are required to be provided as supporting documentation with all invoices submitted to the County.

c. Unless otherwise specified in this section, the County will reimburse Contractor for reimbursable travel expenses for days when services were provided to the County. Contractor must substantiate in writing to the County the actual services rendered and the specific dates. The County will reimburse for travel at 75% of the maximum reimbursement amount for the actual costs of meals and incidental expenses on the day preceding and/or the day following days when services were provided to the County, provided that such reimbursement is reasonable, in light of travel time and other relevant factors, and is approved in writing by authorized County personnel.

d. Unless otherwise specified within the contract, reimbursable travel expenses shall not include Local Travel. "Local Travel" means travel entirely within a fifty-mile radius of the Contractor's office and travel entirely within a fifty-mile radius of San Mateo County. Any mileage reimbursements for a Contractor's use of a personal car for reimbursable travel shall be reimbursed based on the Federal mileage reimbursement rate.

e. The maximum reimbursement amount for the actual lodging, meal and incidental expenses is limited to the then-current Continental United States ("CONUS") rate for the location of the work being done (i.e., Redwood City for work done in Redwood City, San Mateo for work done at San Mateo Medical Center) as set forth in the Code of Federal Regulations and as listed by the website of the U.S. General Services Administration (available online at http://www.gsa.gov/portal/content/104877 or by searching www.gsa.gov for the term 'CONUS'). County policy limits the reimbursement of lodging in designated high cost of living metropolitan areas to a maximum of double the then-current CONUS rate; for work being done outside of a designated high cost of living metropolitan area, the maximum reimbursement amount for lodging is the then-current CONUS rate.

f. The maximum reimbursement amount for the actual cost of airfare shall be limited to fares for Economy Class or below. Air travel fares will not be reimbursed for first class, business class, "economy-plus," or other such classes. Reimbursable car rental rates are restricted to the mid-level size range or below (i.e. standard size, intermediate, compact, or subcompact); costs for specialty, luxury, premium, SUV, or similar category vehicles are not reimbursable. Reimbursable ride-shares are restricted to standard or basic size vehicles (i.e., non-premium vehicles unless it results in a cost-saving to the County). Exceptions may be allowed under certain circumstances, such as unavailability of the foregoing options, with written approval from authorized County personnel. Other related travel expenses such as taxi fares, ride-shares, parking costs, train or subway costs, etc.

shall be reimbursable on an actual-cost basis. Reimbursement of tips for taxi fare, or ride-share are limited to no more than 15% of the fare amount.

g. Travel-related expenses are limited to: airfare, lodging, car rental, taxi/ride-share plus tips, tolls, incidentals (e.g. porters, baggage carriers or hotel staff), breakfast, lunch, dinner, mileage reimbursement based on Federal reimbursement rate. The County will not reimburse for alcohol.

h. Reimbursement of tips are limited to no more than 15 percent. Non-reimbursement items (i.e., alcohol) shall be excluded when calculating the amount of the tip that is reimbursable.

21. Prevailing Wage

When applicable, Contractor hereby agrees to pay not less than prevailing rates of wages and be responsible for compliance with all the provisions of the California Labor Code, Article 2-Wages, Chapter 1, Part 7, Division 2, Section 1770 et seq. A copy of the prevailing wage scale established by the Department of Industrial Relations is on file in the office of the Director of Public Works, and available at www.dir.ca.gov/DLSR or by phone at 415-703-4774. California Labor Code Section 1776(a) requires each contractor and subcontractor keep accurate payroll records of trades workers on all public works projects and to submit copies of certified payroll records upon request.

Additionally,
• No contractor or subcontractor may be listed on a bid proposal for a public works project (submitted after March 1, 2015) unless registered with the Department of Industrial Relations pursuant to Labor Code section 1725.5 [with limited exceptions from this requirement for bid purposes only under Labor Code section 1771.1(a)].

• No contractor or subcontractor may be awarded a contract for public work on a public works project (awarded on or after April 1, 2015) unless registered with the Department of Industrial Relations pursuant to Labor Code section 1725.5.

• This project is subject to compliance monitoring and enforcement by the Department of Industrial Relations

* * *

In witness of and in agreement with this Agreement's terms, the parties, by their duly authorized representatives, affix their respective signatures:

For Contractor: [**SERVICE PROVIDER COMPANY NAME**]

Contractor Signature	Date	Contractor Name (please print)

COUNTY OF SAN MATEO

By:

President, Board of Supervisors, San Mateo County

Date:

ATTEST:

By:

Clerk of Said Board

Exhibit A

In consideration of the payments set forth in Exhibit B, Contractor shall provide the following services:

Exhibit B

In consideration of the services provided by Contractor described in Exhibit A and subject to the terms of the Agreement, County shall pay Contractor based on the following fee schedule and terms:

Exhibit H—Health Insurance Portability and Accountability Act (HIPAA)

Business Associate Requirements

Commented [JF1]: Please confirm this applies to this work?

DEFINITIONS

Terms used, but not otherwise defined, in this Schedule shall have the same meaning as those terms are defined in 45 Code of Federal Regulations (CFR) sections 160.103, 164.304, and 164.501. All regulatory references in this Schedule are to Title 45 of the Code of Federal Regulations unless otherwise specified.

a. ***Business Associate.*** "Business Associate" shall generally have the same meaning as the term "business associate" at 45 CFR 160.103, and in reference to the parties to this agreement shall mean Contractor.
b. ***Covered Entity.*** "Covered entity" shall generally have the same meaning as the term "covered entity" at 45 CFR 160.103, and in reference to the party to this agreement shall mean County.
c. **HIPAA Rules**. "HIPAA rules" shall mean the Privacy, Security, Breach Notification and Enforcement Rules at 45 CFR part 160 and part 164, as amended and supplemented by Subtitle D of the Health Information Technology for Economic and Clinical Health Act provisions of the American Recovery and Reinvestment Act of 2009.
d. ***Designated Record Set***. "Designated Record Set" shall have the same meaning as the term "designated record set" in Section 164.501.
e. ***Electronic Protected Health Information***. "Electronic Protected Health Information" (EPHI) means individually identifiable health information that is transmitted or maintained in electronic media; it is limited to the information created, received, maintained or transmitted by Business Associate from or on behalf of Covered Entity.
f. ***Individual***. "Individual" shall have the same meaning as the term "individual" in Section 164.501 and shall include a person who qualifies as a personal representative in accordance with Section 164.502(g).
g. ***Privacy Rule***. "Privacy Rule" shall mean the Standards for Privacy of Individually Identifiable Health Information at 45 CFR Part 160 and Part 164, Subparts A and E.
h. ***Protected Health Information***. "Protected Health Information" (PHI) shall have the same meaning as the term "protected health information" in Section 160.103 and is limited to the information created or received by Business Associate from or on behalf of County.
i. ***Required By Law***. "Required by law" shall have the same meaning as the term "required by law" in Section 164.103.
j. ***Secretary***. "Secretary" shall mean the Secretary of the United States Department of Health and Human Services or his or her designee.

k. ***Breach***. The acquisition, access, use, or disclosure of PHI in violation of the Privacy Rule that compromises the security or privacy of the PHI and subject to the exclusions set forth in Section 164.402. Unless an exception applies, an impermissible use or disclosure of PHI *is presumed* to be a breach, unless it can be demonstrated there is a low probability that the PHI has been compromised based upon, at minimum, a four-part risk assessment:
   1. Nature and extent of PHI included, identifiers and likelihood of re-identification;
   2. Identity of the unauthorized person or to whom impermissible disclosure was made;
   3. Whether PHI was actually viewed or only the opportunity to do so existed;
   4. The extent to which the risk has been mitigated.

l. ***Security Rule***. "Security Rule" shall mean the Security Standards for the Protection of Electronic Protected Health Information at 45 CFR Part 160 and Part 164, Subparts A and C.

m. ***Unsecured PHI.*** "Unsecured PHI" is protected health information that is not rendered unusable, unreadable, or indecipherable to unauthorized individuals through the use of a technology or methodology specified by the Secretary in relevant HHS guidance.

n. ***Security Incident***. "Security Incident" shall mean the attempted or successful unauthorized access, use, disclosure, modification, or destruction of information or interference with systems operations in an information system. "Security Incident" includes all incidents that constitute breaches of unsecured protected health information.

OBLIGATIONS AND ACTIVITIES OF CONTRACTOR AS BUSINESS ASSOCIATE

a. Business Associate agrees to not use or further disclose Protected Health Information other than as permitted or required by the Agreement or as required by law.
b. Business Associate agrees to use appropriate safeguards to comply with Subpart C of 45 CFR part 164 with respect to EPHI and PHI, and to prevent the use or disclosure of the Protected Health Information other than as provided for by this Agreement.
c. Business Associate agrees to make uses and disclosures requests for Protected Health Information consistent with minimum necessary policy and procedures.
d. Business Associate may not use or disclose protected health information in a manner that would violate subpart E of 45 CFR part 164.504 if used or disclosed by Covered Entity.
e. Business Associate agrees to mitigate, to the extent practicable, any harmful effect that is known to Business Associate of a use or disclosure of Protected Health Information by Business Associate in violation of the requirements of this Agreement.
f. Business Associate agrees to report to County any use or disclosure of Protected Health Information not authorized by this Agreement.

g. Business Associate agrees to ensure that any agent, including a subcontractor, to whom it provides Protected Health Information received from, or created or received by Business Associate on behalf of County, agrees to adhere to the same restrictions and conditions that apply through this Agreement to Business Associate with respect to such information.
h. If Business Associate has Protected Health Information in a Designated Record Set, Business Associate agrees to provide access, at the request of County, and in the time and manner designated by County, to Protected Health Information in a Designated Record Set, to County or, as directed by County, to an Individual in order to meet the requirements under Section 164.524.
i. If Business Associate has Protected Health Information in a Designated Record Set, Business Associate agrees to make any amendment(s) to Protected Health Information in a Designated Record Set that the County directs or agrees to make pursuant to Section 164.526 at the request of County or an Individual, and in the time and manner designed by County.
j. Business Associate agrees to make internal practices, books, and records relating to the use and disclosure of Protected Health Information received from, or created or received by Business Associate on behalf of County, available to the County at the request of County or the Secretary, in a time and manner designated by the County or the Secretary, for purposes of the Secretary determining County's compliance with the Privacy Rule.
k. Business Associate agrees to document such disclosures of Protected Health Information and information related to such disclosures as would be required for County to respond to a request by an Individual for an accounting of disclosures of Protected Health Information in accordance with Section 164.528.
l. Business Associate agrees to provide to County or an Individual in the time and manner designated by County, information collected in accordance with Section (k) of this Schedule, in order to permit County to respond to a request by an Individual for an accounting of disclosures of Protected Health Information in accordance with Section 164.528.
m. Business Associate shall implement administrative, physical, and technical safeguards that reasonably and appropriately protect the confidentiality, integrity, and availability of EPHI that Business Associate creates, receives, maintains, or transmits on behalf of County.
n. Business Associate shall conform to generally accepted system security principles and the requirements of the final HIPAA rule pertaining to the security of health information.
o. Business Associate shall ensure that any agent to whom it provides EPHI, including a subcontractor, agrees to implement reasonable and appropriate safeguards to protect such EPHI.
p. Business Associate shall report to County any Security Incident within three (3) business days of becoming aware of such incident. Business Associate shall also facilitate breach notification(s) to the appropriate governing body (i.e. HHS, OCR,

etc.) as required by law. As appropriate and after consulting with County, Business Associate shall also notify affected individuals and the media of a qualifying breach.

q. Business Associate understands that it is directly liable under the HIPAA rules and subject to civil and, in some cases, criminal penalties for making uses and disclosures of Protected Health Information that are not authorized by this Attachment, the underlying contract as or required by law.

PERMITTED USES AND DISCLOSURES BY CONTRACTOR AS BUSINESS ASSOCIATE

Except as otherwise limited in this Schedule, Business Associate may use or disclose Protected Health Information to perform functions, activities, or services for, or on behalf of, County as specified in the Agreement; provided that such use or disclosure would not violate the Privacy Rule if done by County.

OBLIGATIONS OF COUNTY

a. County shall provide Business Associate with the notice of privacy practices that County produces in accordance with Section 164.520, as well as any changes to such notice.
b. County shall provide Business Associate with any changes in, or revocation of, permission by Individual to use or disclose Protected Health Information, if such changes affect Business Associate's permitted or required uses and disclosures.
c. County shall notify Business Associate of any restriction to the use or disclosure of Protected Health Information that County has agreed to in accordance with Section 164.522.

PERMISSIBLE REQUESTS BY COUNTY

County shall not request Business Associate to use or disclose Protected Health Information in any manner that would not be permissible under the Privacy Rule if so requested by County, unless the Business Associate will use or disclose Protected Health Information for, and if the Agreement provides for, data aggregation or management and administrative activities of Business Associate.

DUTIES UPON TERMINATION OF AGREEMENT

a. Upon termination of the Agreement, for any reason, Business Associate shall return or destroy all Protected Health Information received from County, or created, maintained, or received by Business Associate on behalf of County, that Business Associate still maintains in any form. This provision shall apply to Protected Health Information that is in the possession of subcontractors or agents of Business Associate. Business Associate shall retain no copies of the Protected Health Information.

b. In the event that Business Associate determines that returning or destroying Protected Health Information is infeasible, Business Associate shall provide to County notification of the conditions that make return or destruction infeasible. Upon mutual agreement of the Parties that return or destruction of Protected Health Information is infeasible, Business Associate shall extend the protections of the Agreement to such Protected Health Information and limit further uses and disclosures of such Protected Health Information to those purposes that make the return or destruction infeasible, for so long as Business Associate maintains such Protection Health Information.

MISCELLANEOUS

a. **Regulatory References**. A reference in this Schedule to a section in the HIPAA Privacy Rule means the section as in effect or as amended, and for which compliance is required.
b. **Amendment**. The Parties agree to take such action as is necessary to amend this Schedule from time to time as is necessary for County to comply with the requirements of the Privacy Rule and the Health Insurance Portability and Accountability Act, Public Law 104-191.
c. **Survival**. The respective rights and obligations of Business Associate under this Schedule shall survive the termination of the Agreement.
d. **Interpretation**. Any ambiguity in this Schedule shall be resolved in favor of a meaning that permits County to comply with the Privacy Rule.
e. **Reservation of Right to Monitor Activities**. County reserves the right to monitor the security policies and procedures of Business Associate.

Exhibit I –

Assurance of Compliance with Section 504 of the Rehabilitation Act of 1973, as Amended

I. The undersigned (hereinafter called "Contractor(s)") hereby agrees that it will comply with Section 504 of the Rehabilitation Act of 1973, as amended, all requirements imposed by the applicable DHHS regulation, and all guidelines and interpretations issued pursuant thereto.

The Contractor(s) gives/give this assurance in consideration of for the purpose of obtaining contracts after the date of this assurance. The Contractor(s) recognizes/recognize and agrees/agree that contracts will be extended in reliance on the representations and agreements made in this assurance. This assurance is binding on the Contractor(s), its successors, transferees, and assignees, and the person or persons whose signatures appear below are authorized to sign this assurance on behalf of the Contractor(s).

The Contractor(s): (Check a or b)

☐ a. Employs fewer than 15 persons.

☒ b. Employs 15 or more persons and, pursuant to section 84.7 (a) of the regulation (45 C.F.R.
84.7 (a), has designated the following person(s) to coordinate its efforts to comply with the DHHS regulation.

Name of 504 Person:	
Name of Contractor(s):	
Street Address or P.O. Box:	
City, State, Zip Code:	

I certify that the above information is complete and correct to the best of my knowledge

Signature:	
Title of Authorized Official:	Paul David, Vice President

Date:

*Exception: DHHS regulations state that: "If a recipient with fewer than 15 employees finds that, after consultation with a disabled person seeking its services, there is no method of complying with (the facility accessibility regulations) other than making a significant alteration in its existing facilities, the recipient may, as an alternative, refer the handicapped person to other providers of those services that are accessible."

Exhibit IP – Intellectual Property Rights

1. The County of San Mateo ("County"), shall and does own all titles, rights and interests in all Work Products created by Contractor and its subcontractors (collectively "Vendors") for the County under this Agreement. Contractor may not sell, transfer, or permit the use of any Work Products without the express written consent of the County.
2. "Work Products" are defined as all materials, tangible or not, created in whatever medium pursuant to this Agreement, including without limitation publications, promotional or educational materials, reports, manuals, specifications, drawings and sketches, computer programs, software and databases, schematics, marks, logos, graphic designs, notes, matters and combinations thereof, and all forms of intellectual property.
3. Contractor shall not dispute or contest, directly or indirectly, the County's exclusive right and title to the Work Products nor the validity of the intellectual property embodied therein. Contractor hereby assigns, and if later required by the County, shall assign to the County all titles, rights and interests in all Work Products. Contractor shall cooperate and cause subcontractors to cooperate in perfecting County's titles, rights or interests in any Work Product, including prompt execution of documents as presented by the County.
4. To the extent any of the Work Products may be protected by U.S. Copyright laws, Parties agree that the County commissions Vendors to create the copyrightable Work Products, which are intended to be work-made-for-hire for the sole benefit of the County and the copyright of which is vested in the County.
5. In the event that the title, rights, and/or interests in any Work Products are deemed not to be "work-made-for-hire" or not owned by the County, Contractor hereby assigns and shall require all persons performing work pursuant to this Agreement, including its subcontractors, to assign to the County all titles, rights, interests, and/or copyrights in such Work Product. Should such assignment and/or transfer become necessary or if at any time the County requests cooperation of Contractor to perfect the County's titles, rights or interests in any Work Product, Contractor agrees to promptly execute and to obtain execution of any documents (including assignments) required to perfect the titles, rights, and interests of the County in the Work Products with no additional charges to the County beyond that identified in this Agreement or subsequent change orders. The County, however, shall pay all filing fees required for the assignment, transfer, recording, and/or application.
6. Notwithstanding anything to the contrary herein, to the extent any contract materials include proprietary information that is not prepared exclusively and solely for County, such proprietary information will remain the property of Contractor, but County will have unrestricted and non-exclusive rights and license to use such information.
7. Contractor agrees that before commencement of any subcontract work it will incorporate this ATTACHMENT IP to contractually bind or otherwise oblige its subcontractors and personnel performing work under this Agreement such that the County's titles, rights, and interests in Work Products are preserved and protected as intended herein.

Sustainable.
Reliable.
Resilient.

Giving you the power to adapt
to new possibilities.