

PROFESSIONAL CONSULTANT SERVICES AGREEMENT

NV5, INC.

RFP 1872 ELECTRICAL ENGINEERING DESIGN SERVICES FOR POLE REPLACEMENT, VAULT REFURBISHMENT AND/OR LINE RECONDUCTORS

THIS PROFESSIONAL CONSULTANT SERVICES AGREEMENT ("Agreement") is made and entered into this _____ day of _____, 20____ ("Effective Date"), by and between the CITY OF RIVERSIDE, a California charter city and municipal corporation ("City"), and NV5, INC., a California corporation ("Consultant").

1. **Scope of Services.** City agrees to retain and does hereby retain Consultant and Consultant agrees to provide the services more particularly described in Exhibit "A," "Scope of Services" ("Services"), attached hereto and incorporated herein by reference, in conjunction with RFP 1872 ELECTRICAL ENGINEERING DESIGN SERVICES FOR POLE REPLACEMENT, VAULT REFURBISHMENT AND/OR LINE RECONDUCTORS ("Project").

2. **Term.** This Agreement shall be effective on the date first written above and shall remain in effect until June 17, 2021, unless otherwise terminated pursuant to the provisions herein.

3. **Compensation/Payment.** Consultant shall perform the Services under this Agreement for the total sum not to exceed Three Hundred Twenty-Six Thousand Nine Hundred Four Dollars (\$326,904.00), payable in accordance with the terms set forth in Exhibit "B." Said payment shall be made in accordance with City's usual accounting procedures upon receipt and approval of an itemized invoice setting forth the services performed. The invoices shall be delivered to City at the address set forth in Section 4 hereof.

4. **Notices.** Any notices required to be given, hereunder shall be in writing and shall be personally served or given by mail. Any notice given by mail shall be deemed given when deposited in the United States Mail, certified and postage prepaid, addressed to the party to be served as follows:

To City

Riverside Public Utilities, Energy Delivery
City of Riverside
Attn: Dave Miller
3750 University Avenue, 4th Floor
Riverside, CA 92501

To Consultant

NV5
Attn: Gary Clark, PE
1101 California Avenue, Suite 209
Corona, CA 92881

5. **Prevailing Wage.** If applicable, Consultant and all subcontractors are required to pay the general prevailing wage rates of per diem wages and overtime and holiday wages determined by the Director of the Department of Industrial Relations under Section 1720 et seq. of the California Labor Code and implemented by Resolution No. 13346 of the City Council of the City of Riverside. The Director's determination is available on-line at www.dir.ca.gov/dlsr/DPreWageDetermination.htm and is referred to and made a part hereof; the wage rates therein ascertained, determined, and specified are referred to and made a part hereof as though fully set forth herein.

6. **Contract Administration.** A designee of the City will be appointed in writing by the City Manager or Department Director to administer this Agreement on behalf of City and shall be referred to herein as Contract Administrator.

7. **Standard of Performance.** While performing the Services, Consultant shall exercise the reasonable professional care and skill customarily exercised by reputable members of Consultant's profession practicing in the Metropolitan Southern California Area, and shall use reasonable diligence and best judgment while exercising its professional skill and expertise.

8. **Personnel.** Consultant shall furnish all personnel necessary to perform the Services and shall be responsible for their performance and compensation. Consultant recognizes that the qualifications and experience of the personnel to be used are vital to professional and timely completion of the Services. The key personnel listed in Exhibit "C" attached hereto and incorporated herein by this reference and assigned to perform portions of the Services shall remain assigned through completion of the Services, unless otherwise mutually agreed by the parties in writing, or caused by hardship or resignation in which case substitutes shall be subject to City approval.

9. **Assignment and Subcontracting.** Neither party shall assign any right, interest, or obligation in or under this Agreement to any other entity without prior written consent of the other party. In any event, no assignment shall be made unless the assignee expressly assumes the obligations of assignor under this Agreement, in a writing satisfactory to the parties. Consultant acknowledges that any assignment may, at the City's sole discretion, require City Manager and/or City Council approval. Consultant shall not subcontract any portion of the work required by this Agreement without prior written approval by the responsible City Contract Administrator. Subcontracts, if any, shall contain a provision making them subject to all provisions stipulated in this Agreement, including without limitation, the insurance obligations set forth in Section 12. The Consultant acknowledges and agrees that the City is an intended beneficiary of any work performed by any subcontractor for purposes of establishing a duty of care between any subcontractor and the City.

10. **Independent Contractor.** In the performance of this Agreement, Consultant, and Consultant's employees, subcontractors and agents, shall act in an independent capacity as independent contractors, and not as officers or employees of the City of Riverside. Consultant acknowledges and agrees that the City has no obligation to pay or withhold state or federal taxes or to provide workers' compensation or unemployment insurance to Consultant, or to Consultant's employees, subcontractors and agents. Consultant, as an independent contractor, shall be responsible for any and all taxes that apply to Consultant as an employer.

11. **Indemnification.**

11.1 **Design Professional Defined.** For purposes of this Agreement, "Design Professional" includes the following:

- A. An individual licensed as an architect pursuant to Chapter 3 (commencing with Section 5500) of Division 3 of the Business and Professions Code, and a business entity offering architectural services in accordance with that chapter.
- B. An individual licensed as a landscape architect pursuant to Chapter 3.5 (commencing with Section 5615) of Division 3 of the Business and Professions Code, and a business entity offering landscape architectural services in accordance with that chapter.
- C. An individual registered as a professional engineer pursuant to Chapter 7 (commencing with Section 6700) of Division 3 of the Business and Professions Code, and a business entity offering professional engineering services in accordance with that chapter.
- D. An individual licensed as a professional land surveyor pursuant to Chapter 15 (commencing with Section 8700) of Division 3 of the Business and Professions Code, and a business entity offering professional land surveying services in accordance with that chapter.

11.2 **Defense Obligation For Design Professional Liability.** Consultant agrees, at its cost and expense, to promptly defend the City, and the City's employees, officers, managers, agents and council members (collectively the "Parties to be Defended") from and against any and all claims, allegations, lawsuits, arbitration proceedings, administrative proceedings, regulatory proceedings, or other legal proceedings to the extent the same arise out of, pertain to, or relate to the negligence, recklessness or willful misconduct of Consultant, or anyone employed by or working under the Consultant or for services rendered to the Consultant in the performance of the Agreement, notwithstanding that the City may have benefited from its work or services and whether or not caused in part by the negligence of an Indemnified Party. Consultant agrees to provide this defense immediately upon written notice from the City, and with well qualified, adequately insured and experienced legal counsel acceptable to City. This obligation to defend as set forth herein is binding on the successors, assigns and heirs of Consultant and shall survive the termination of Consultant's Services under this Agreement.

11.3 **Indemnity For Design Professional Liability.** When the law establishes a professional standard of care for Consultant's services, to the fullest extent permitted by law, Consultant shall indemnify, protect and hold harmless the City and the City's employees, officers, managers, agents, and Council Members ("Indemnified Parties") from and against any and all claim for damage, charge, lawsuit, action, judicial, administrative, regulatory or arbitration proceeding, damage, cost, expense (including counsel and expert fees), judgment, civil fines and penalties, liabilities or losses of any kind or nature whatsoever to the extent the same arise out of, pertain to, or

relate to the negligence, recklessness or willful misconduct of Consultant, or anyone employed by or working under the Consultant or for services rendered to the Consultant in the performance of the Agreement, notwithstanding that the City may have benefited from its work or services and whether or not caused in part by the negligence of an Indemnified Party.

11.4 Defense Obligation For Other Than Design Professional Liability.

Consultant agrees, at its cost and expense, to promptly defend the City, and the City's employees, officers, managers, agents and council members (collectively the "Parties to be Defended") from and against any and all claims, allegations, lawsuits, arbitration proceedings, administrative proceedings, regulatory proceedings, or other legal proceedings which arise out of, or relate to, or are in any way connected with: 1) the Services, work, activities, operations, or duties of the Consultant, or of anyone employed by or working under the Consultant, or 2) any breach of the Agreement by the Consultant. This duty to defend shall apply whether or not such claims, allegations, lawsuits or proceedings have merit or are meritless, or which involve claims or allegations that any or all of the Parties to be Defended were actively, passively, or concurrently negligent, or which otherwise assert that the Parties to be Defended are responsible, in whole or in part, for any loss, damage or injury. Consultant agrees to provide this defense immediately upon written notice from the City, and with well qualified, adequately insured and experienced legal counsel acceptable to City. This obligation to defend as set forth herein is binding on the successors, assigns and heirs of Consultant and shall survive the termination of Consultant's Services under this Agreement.

11.5 Indemnity For Other Than Design Professional Liability. Except as to the sole negligence or willful misconduct of the City, Consultant agrees to indemnify, protect and hold harmless the Indemnified Parties from and against any claim for damage, charge, lawsuit, action, judicial, administrative, regulatory or arbitration proceeding, damage, cost, expense (including counsel and expert fees), judgment, civil fine and penalties, liabilities or losses of any kind or nature whatsoever whether actual, threatened or alleged, which arise out of, pertain to, or relate to, or are a consequence of, or are attributable to, or are in any manner connected with the performance of the Services, work, activities, operations or duties of the Consultant, or anyone employed by or working under the Consultant or for services rendered to Consultant in the performance of this Agreement, notwithstanding that the City may have benefited from its work or services. This indemnification provision shall apply to any acts, omissions, negligence, recklessness, or willful misconduct, whether active or passive, on the part of the Consultant or anyone employed or working under the Consultant.

12. Insurance.

12.1 General Provisions. Prior to the City's execution of this Agreement, Consultant shall provide satisfactory evidence of, and shall thereafter maintain during the term of this Agreement, such insurance policies and coverages in the types, limits, forms and ratings required herein. The rating and required insurance policies and coverages may be modified in writing by the City's Risk Manager or City Attorney, or a designee, unless such modification is prohibited by law.

12.1.1 Limitations. These minimum amounts of coverage shall not constitute any limitation or cap on Consultant's indemnification obligations under Section 11 hereof.

12.1.2 Ratings. Any insurance policy or coverage provided by Consultant or subcontractors as required by this Agreement shall be deemed inadequate and a material breach of this Agreement, unless such policy or coverage is issued by insurance companies authorized to transact insurance business in the State of California with a policy holder's rating of A or higher and a Financial Class of VII or higher.

12.1.3 Cancellation. The policies shall not be canceled unless thirty (30) days prior written notification of intended cancellation has been given to City by certified or registered mail, postage prepaid.

12.1.4 Adequacy. The City, its officers, employees and agents make no representation that the types or limits of insurance specified to be carried by Consultant pursuant to this Agreement are adequate to protect Consultant. If Consultant believes that any required insurance coverage is inadequate, Consultant will obtain such additional insurance coverage as Consultant deems adequate, at Consultant's sole expense.

12.2 Workers' Compensation Insurance. By executing this Agreement, Consultant certifies that Consultant is aware of and will comply with Section 3700 of the Labor Code of the State of California requiring every employer to be insured against liability for workers' compensation, or to undertake self-insurance before commencing any of the work. Consultant shall carry the insurance or provide for self-insurance required by California law to protect said Consultant from claims under the Workers' Compensation Act. Prior to City's execution of this Agreement, Consultant shall file with City either 1) a certificate of insurance showing that such insurance is in effect, or that Consultant is self-insured for such coverage, or 2) a certified statement that Consultant has no employees, and acknowledging that if Consultant does employ any person, the necessary certificate of insurance will immediately be filed with City. Any certificate filed with City shall provide that City will be given ten (10) days prior written notice before modification or cancellation thereof.

12.3 Commercial General Liability and Automobile Insurance. Prior to City's execution of this Agreement, Consultant shall obtain, and shall thereafter maintain during the term of this Agreement, commercial general liability insurance and automobile liability insurance as required to insure Consultant against damages for personal injury, including accidental death, as well as from claims for property damage, which may arise from or which may concern operations by anyone directly or indirectly employed by, connected with, or acting for or on behalf of Consultant. The City, and its officers, employees and agents, shall be named as additional insureds under the Consultant's insurance policies.

12.3.1 Consultant's commercial general liability insurance policy shall cover both bodily injury (including death) and property damage (including, but not limited to, premises operations liability, products-completed operations liability, independent contractor's liability, personal injury liability, and contractual liability) in an amount not less than \$1,000,000 per occurrence and a general aggregate limit in the amount of not less than \$2,000,000.

12.3.2 Consultant's automobile liability policy shall cover both bodily injury and property damage in an amount not less than \$1,000,000 per occurrence and an aggregate limit of

not less than \$1,000,000. All of Consultant's automobile and/or commercial general liability insurance policies shall cover all vehicles used in connection with Consultant's performance of this Agreement, which vehicles shall include, but are not limited to, Consultant owned vehicles, Consultant leased vehicles, Consultant's employee vehicles, non-Consultant owned vehicles and hired vehicles.

12.3.3 Prior to City's execution of this Agreement, copies of insurance policies or original certificates along with additional insured endorsements acceptable to the City evidencing the coverage required by this Agreement, for both commercial general and automobile liability insurance, shall be filed with City and shall include the City and its officers, employees and agents, as additional insureds. Said policies shall be in the usual form of commercial general and automobile liability insurance policies, but shall include the following provisions:

It is agreed that the City of Riverside, and its officers, employees and agents, are added as additional insureds under this policy, solely for work done by and on behalf of the named insured for the City of Riverside.

12.3.4 The insurance policy or policies shall also comply with the following provisions:

- a. The policy shall be endorsed to waive any right of subrogation against the City and its sub-consultants, employees, officers and agents for services performed under this Agreement.
- b. If the policy is written on a claims made basis, the certificate should so specify and the policy must continue in force for one year after completion of the services. The retroactive date of coverage must also be listed.
- c. The policy shall specify that the insurance provided by Consultant will be considered primary and not contributory to any other insurance available to the City and Endorsement No. CG 20010413 shall be provided to the City.

12.4 Errors and Omissions Insurance. Prior to City's execution of this Agreement, Consultant shall obtain, and shall thereafter maintain during the term of this Agreement, errors and omissions professional liability insurance in the minimum amount of \$1,000,000 to protect the City from claims resulting from the Consultant's activities.

12.5 Subcontractors' Insurance. Consultant shall require all of its subcontractors to carry insurance, in an amount sufficient to cover the risk of injury, damage or loss that may be caused by the subcontractors' scope of work and activities provided in furtherance of this Agreement, including, but without limitation, the following coverages: Workers Compensation, Commercial General Liability, Errors and Omissions, and Automobile liability. Upon City's request, Consultant shall provide City with satisfactory evidence that Subcontractors have obtained insurance policies and coverages required by this section.

13. **Business Tax.** Consultant understands that the Services performed under this Agreement constitutes doing business in the City of Riverside, and Consultant agrees that Consultant will register for and pay a business tax pursuant to Chapter 5.04 of the Riverside Municipal Code and keep such tax certificate current during the term of this Agreement.

14. **Time of Essence.** Time is of the essence for each and every provision of this Agreement.

15. **City's Right to Employ Other Consultants.** City reserves the right to employ other Consultants in connection with the Project. If the City is required to employ another consultant to complete Consultant's work, due to the failure of the Consultant to perform, or due to the breach of any of the provisions of this Agreement, the City reserves the right to seek reimbursement from Consultant.

16. **Accounting Records.** Consultant shall maintain complete and accurate records with respect to costs incurred under this Agreement. All such records shall be clearly identifiable. Consultant shall allow a representative of City during normal business hours to examine, audit, and make transcripts or copies of such records and any other documents created pursuant to this Agreement. Consultant shall allow inspection of all work, data, documents, proceedings, and activities related to the Agreement for a period of three (3) years from the date of final payment under this Agreement.

17. **Confidentiality.** All ideas, memoranda, specifications, plans, procedures, drawings, descriptions, computer program data, input record data, written information, and other materials either created by or provided to Consultant in connection with the performance of this Agreement shall be held confidential by Consultant, except as otherwise directed by City's Contract Administrator. Nothing furnished to Consultant which is otherwise known to the Consultant or is generally known, or has become known, to the related industry shall be deemed confidential. Consultant shall not use City's name or insignia, photographs of the Project, or any publicity pertaining to the Services or the Project in any magazine, trade paper, newspaper, television or radio production, website, or other similar medium without the prior written consent of the City.

18. **Ownership of Documents.** All reports, maps, drawings and other contract deliverables prepared under this Agreement by Consultant shall be and remain the property of City. Consultant shall not release to others information furnished by City without prior express written approval of City.

19. **Copyrights.** Consultant agrees that any work prepared for City which is eligible for copyright protection in the United States or elsewhere shall be a work made for hire. If any such work is deemed for any reason not to be a work made for hire, Consultant assigns all right, title and interest in the copyright in such work, and all extensions and renewals thereof, to City, and agrees to provide all assistance reasonably requested by City in the establishment, preservation and enforcement of its copyright in such work, such assistance to be provided at City's expense but without any additional compensation to Consultant. Consultant agrees to waive all moral rights relating to the work developed or produced, including without limitation any and all rights of

identification of authorship and any and all rights of approval, restriction or limitation on use or subsequent modifications.

20. **Conflict of Interest.** Consultant, for itself and on behalf of the individuals listed in Exhibit "C", represents and warrants that by the execution of this Agreement, they have no interest, present or contemplated, in the Project affected by the above-described Services. Consultant further warrants that neither Consultant, nor the individuals listed in Exhibit "C" have any real property, business interests or income interests that will be affected by this project or, alternatively, that Consultant will file with the City an affidavit disclosing any such interest.

21. **Solicitation.** Consultant warrants that Consultant has not employed or retained any person or agency to solicit or secure this Agreement, nor has it entered into any agreement or understanding for a commission, percentage, brokerage, or contingent fee to be paid to secure this Agreement. For breach of this warranty, City shall have the right to terminate this Agreement without liability and pay Consultant only for the value of work Consultant has actually performed, or, in its sole discretion, to deduct from the Agreement price or otherwise recover from Consultant the full amount of such commission, percentage, brokerage or commission fee. The remedies specified in this section shall be in addition to and not in lieu of those remedies otherwise specified in this Agreement.

22. **General Compliance With Laws.** Consultant shall keep fully informed of federal, state and local laws and ordinances and regulations which in any manner affect those employed by Consultant, or in any way affect the performance of services by Consultant pursuant to this Agreement. Consultant shall at all times observe and comply with all such laws, ordinances and regulations, and shall be solely responsible for any failure to comply with all applicable laws, ordinances and regulations. Consultant represents and warrants that Consultant has obtained all necessary licenses to perform the Scope of Services and that such licenses are in good standing. Consultant further represents and warrants that the services provided herein shall conform to all ordinances, policies and practices of the City of Riverside.

23. **Waiver.** No action or failure to act by the City shall constitute a waiver of any right or duty afforded City under this Agreement, nor shall any such action or failure to act constitute approval of or acquiescence in any breach thereunder, except as may be specifically, provided in this Agreement or as may be otherwise agreed in writing.

24. **Amendments.** This Agreement may be modified or amended only by a written agreement and/or change order executed by the Consultant and City.

25. **Termination.** City, by notifying Consultant in writing, shall have the right to terminate any or all of Consultant's services and work covered by this Agreement at any time. In the event of such termination, Consultant may submit Consultant's final written statement of the amount of Consultant's services as of the date of such termination based upon the ratio that the work completed bears to the total work required to make the report complete, subject to the City's rights under Sections 15 and 26 hereof. In ascertaining the work actually rendered through the termination date, City shall consider completed work, work in progress and complete and incomplete reports and other documents only after delivered to City.

25.1 Other than as stated below, City shall give Consultant thirty (30) days prior written notice prior to termination.

25.2 City may terminate this Agreement upon fifteen (15) days written notice to Consultant, in the event:

25.2.1 Consultant substantially fails to perform or materially breaches the Agreement; or

25.2.2 City decides to abandon or postpone the Project.

26. **Offsets.** Consultant acknowledges and agrees that with respect to any business tax or penalties thereon, utility charges, invoiced fee or other debt which Consultant owes or may owe to the City, City reserves the right to withhold and offset said amounts from payments or refunds or reimbursements owed by City to Consultant. Notice of such withholding and offset, shall promptly be given to Consultant by City in writing. In the event of a dispute as to the amount owed or whether such amount is owed to the City, City will hold such disputed amount until either the appropriate appeal process has been completed or until the dispute has been resolved.

27. **Successors and Assigns.** This Agreement shall be binding upon City and its successors and assigns, and upon Consultant and its permitted successors and assigns, and shall not be assigned by Consultant, either in whole or in part, except as otherwise provided in paragraph 9 of this Agreement.

28. **Venue.** Any action at law or in equity brought by either of the parties hereto for the purpose of enforcing a right or rights provided for by this Agreement shall be tried in a court of competent jurisdiction in the County of Riverside, State of California, and the parties hereby waive all provisions of law providing for a change of venue in such proceedings to any other county. In the event either party hereto shall bring suit to enforce any term of this Agreement or to recover any damages for and on account of the breach of any term or condition of this Agreement, it is mutually agreed that each party will bear their own attorney's fees and costs.

29. **Nondiscrimination.** During Consultant's performance of this Agreement, Consultant shall not discriminate on the grounds of race, religious creed, color, national origin, ancestry, age, physical disability, mental disability, medical condition, including the medical condition of Acquired Immune Deficiency Syndrome (AIDS) or any condition related thereto, marital status, sex, genetic information, gender, gender identity, gender expression, or sexual orientation, military and veteran status, in the selection and retention of employees and subcontractors and the procurement of materials and equipment, except as provided in Section 12940 of the California Government Code. Further, Consultant agrees to conform to the requirements of the Americans with Disabilities Act in the performance of this Agreement.

30. **Severability.** Each provision, term, condition, covenant and/or restriction, in whole and in part, of this Agreement shall be considered severable. In the event any provision, term, condition, covenant and/or restriction, in whole and/or in part, of this Agreement is declared invalid, unconstitutional, or void for any reason, such provision or part thereof shall be severed from this

Agreement and shall not affect any other provision, term, condition, covenant and/or restriction of this Agreement, and the remainder of the Agreement shall continue in full force and effect.

31. **Authority.** The individuals executing this Agreement and the instruments referenced herein on behalf of Consultant each represent and warrant that they have the legal power, right and actual authority to bind Consultant to the terms and conditions hereof and thereof.

32. **Entire Agreement.** This Agreement constitutes the final, complete, and exclusive statement of the terms of the agreement between the parties pertaining to the subject matter of this Agreement, and supersedes all prior and contemporaneous understandings or agreements of the parties. Neither party has been induced to enter into this Agreement by and neither party is relying on, any representation or warranty outside those expressly set forth in this Agreement.

33. **Interpretation.** City and Consultant acknowledge and agree that this Agreement is the product of mutual arms-length negotiations and accordingly, the rule of construction, which provides that the ambiguities in a document shall be construed against the drafter of that document, shall have no application to the interpretation and enforcement of this Agreement.

33.1 Titles and captions are for convenience of reference only and do not define, describe or limit the scope or the intent of the Agreement or any of its terms. Reference to section numbers, are to sections in the Agreement unless expressly stated otherwise.

33.2 This Agreement shall be governed by and construed in accordance with the laws of the State of California in effect at the time of the execution of this Agreement.

33.3 In the event of a conflict between the body of this Agreement and Exhibit "A" - Scope of Services hereto, the terms contained in Exhibit "A" shall be controlling.

34. **Exhibits.** The following exhibits attached hereto are incorporated herein to this Agreement by this reference:

Exhibit "A" - Scope of Services


Exhibit "B" - Compensation

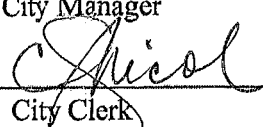
Exhibit "C" - Key Personnel

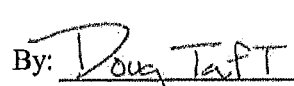
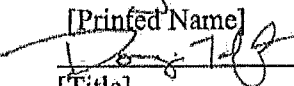
IN WITNESS WHEREOF, City and Consultant have caused this Agreement to be duly executed the day and year first above written.

CITY OF RIVERSIDE, a California
charter city and municipal corporation
a California corporation

NV5, INC., a California Corporation

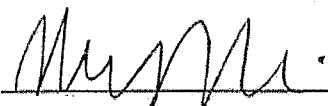
By: 
City Manager

Attest: 
City Clerk

By: 
[Printed Name]

[Title]
SENIOR VICE PRESIDENT

Certified as to Availability of Funds:

By: 
Finance Director, Edward Enriquez

By: 
MARY JO OBREGON
SECRETARY
[Title]

Approved as to Form:

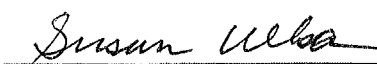
By: 
Deputy City Attorney

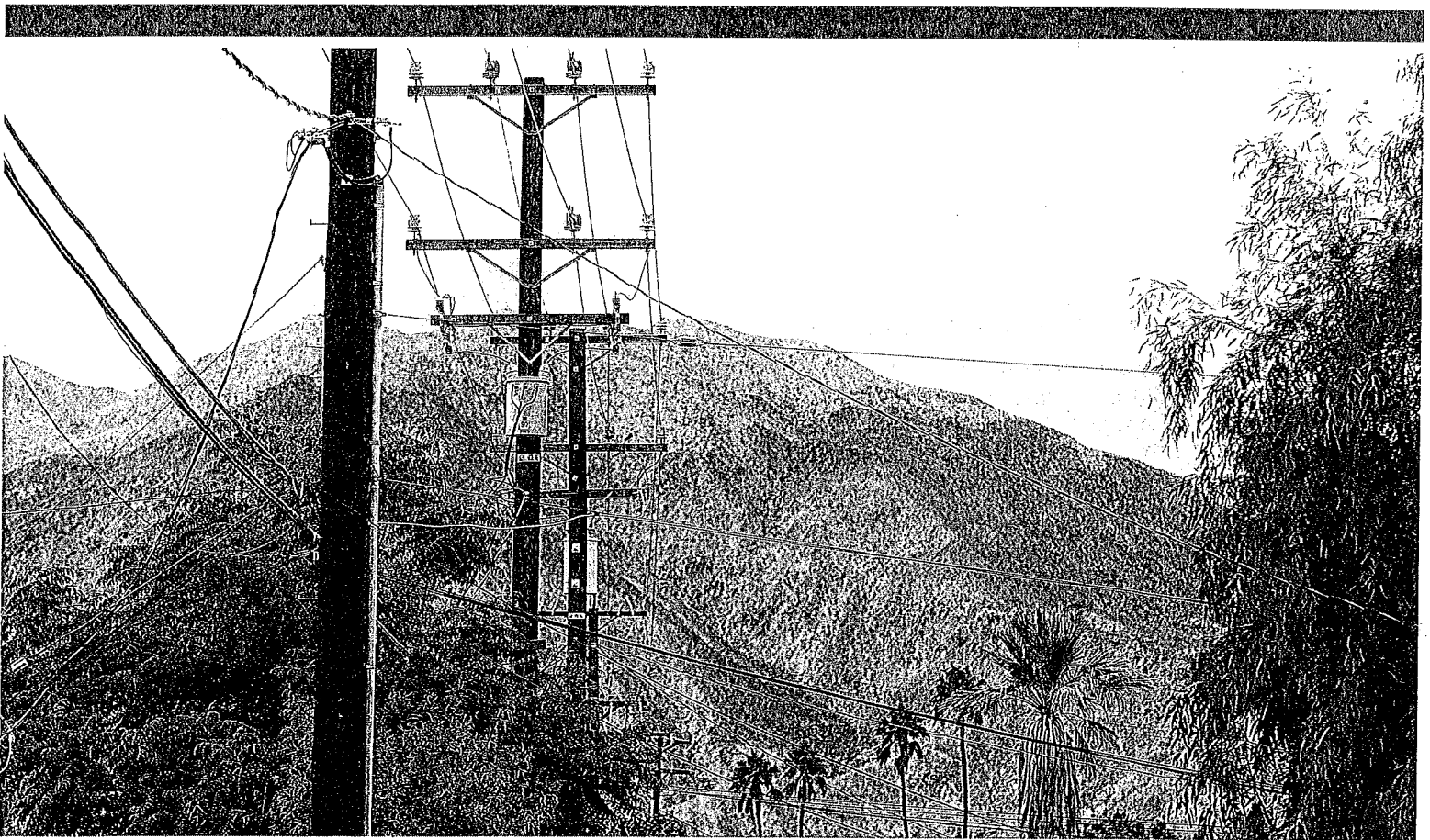
EXHIBIT "A"

SCOPE OF SERVICES

PROPOSAL TO PROVIDE PROFESSIONAL SERVICES FOR
ELECTRICAL ENGINEERING DESIGN SERVICES FOR
POLE REPLACEMENT, VAULT REFURBISHMENT OR REPLACEMENT
AND LINE RECONDUCTORS (RFP NO. 1872)

November 19, 2018

Prepared For:
CITY OF RIVERSIDE PUBLIC UTILITIES DEPARTMENT
Ben Hatheway
3900 Main Street
Riverside, CA 92522



N|V|5

1101 California Avenue, Suite 209
Corona, CA 92881
Gary Clark, PE
Cell: 909.544.2492

P2681800012



November 19, 2018

Mr. Ben Hatheway
Procurement & Contract Specialist
City of Riverside Public Utilities Department
Electronic Submission

Subject: Proposal to Provide Professional Services for Electrical Engineering Design Services for Pole Replacement, Vault Refurbishment or Replacement and Line Reconductors

Dear Ben,

The City of Riverside Public Utilities Department (RPU) seeks a qualified firm to provide electrical engineering and design services for pole replacement, vault refurbishment or replacement, and line reconductors. **NV5 fully understands this RFP's importance to RPU and we have the in-house resources and local expertise to successfully complete this project.**

Firm Longevity – NV5 has served Southern California for 69 years. Our focus is on communities, and our mission is to develop solutions that improve the lives of the people who live in those communities. We will work with you to develop and reach your project goals.

Technical Knowledge and Experience – NV5 has developed a significant resume of electrical, civil, and structural transmission & distribution (T&D) design experience over the past 25 years. Our survey and construction management staff have also served as critical contributors to the planning, approval, and construction of these complex, high-visibility projects. In addition, NV5 has a successful history of working with RPU to complete projects on-time and on-budget. NV5 previously worked with RPU distribution staff to conduct an in-depth circuit ampacity study at each RPU substation. NV5 is currently working on two RPU projects: Schedule Development/Consultation Services and Transformer Replacements at Freeman and Mt. View Substations. NV5's prior working knowledge of RPU's existing electrical infrastructure, and familiarity with RPU staff and standards, will allow NV5 to quickly hit the ground running on this project.

Commitment to RPU – We want to continue to be your partner for success and we take our responsibility as your partner seriously. We understand RPU's specific concerns of this project, as there are numerous unknown risks associated with pole replacements, reconductors, and repairing underground structures. We believe that NV5's collective experience within a single company, combined with our past history of working with RPU and other local utilities with similar legislative and regulatory concerns, will provide you with a highly qualified partner that has the specific knowledge and experience needed for a successful project.

Local In-House Team – NV5 will serve RPU from our Corona office. Gary Clark, PE, will lead the team as senior project manager and act as your main point of contact during the proposal review process. Gary has crafted a team that has specific expertise for each scope of work, with similar experience from their collective consulting, contracting, and utility engineering backgrounds. We believe this team's thorough understanding of the project requirements, and experience with similar projects for various California utilities, will be the key to a successful project kickoff and execution.

Proven Safety Expertise – Adherence to safe working practices while performing fieldwork in diverse service territories is critical. "Safety is our focus and responsibility" – one of NV5's core values. It is NV5's policy that accident prevention shall be considered of primary importance in all phases of operation and administration.

Our staff is well-trained in safety standards and procedures needed to perform this work, including the requirement of proper personal protective equipment when accessing any RPU structure. We hold weekly onsite safety meetings, and all field staff are CPR certified. NV5 also has an "A" rating with ISNetwork.

Litigation is not an Issue – NV5 has been established for many decades. The industry in which we provide professional services yields claims that arise from time to time. Claims that arise consist predominantly of general allegations related to professional errors or omissions for work performed under a contract or project. NV5 maintains adequate insurance coverage to protect against such claims. We believe there are no claims or lawsuits either threatened or pending that would impair our ability to perform on this project.

We have reviewed the RFP (including Addenda #1) and are confident we can provide the services required. NV5 has acknowledged receipt of Addenda 1 via PlanetBids. NV5 currently has a contract with RPU, and therefore, we will take no exceptions to the sample agreement or RFP.

We look forward to continuing our relationship with the City of Riverside Public Utilities Department to make this project a success. If you need additional information or have any questions, please contact Gary Clark at 909.544.2492 / gary.clark@NV5.com.

Sincerely,

NV5, Inc.

A handwritten signature in black ink, appearing to read 'Gary Clark', with a stylized flourish at the end.

Gary Clark, PE
Senior Project Manager

A handwritten signature in black ink, appearing to read 'Doug Taft', with a stylized flourish at the end.

Doug Taft
Principal-in-Charge



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Evidence of Insurance _____	32
Litigation _____	33
Pricing _____	34

COMMITMENT.

NV5 is confident our expertise in electrical, structural, and civil engineering combined with our extensive local knowledge, makes us your ideal partner. We have a strong personal commitment to the success of RPU's projects and look forward to growing our partnership.

EXPERIENCE.

NV5's team of engineering professionals offer the essential professional consulting and construction experience, as well as all other required services for this contract. NV5 has the proven expertise to successfully provide the required services to complete this project for RPU.

SUCCESS.

NV5 has served southern California for over 60 years. We talk with our clients and, more importantly, we listen. As a result, our clients trust us to provide the integrated consulting and management solutions that enable their success—regardless of project size or complexity.

STATEMENT OF UNDERSTANDING AND APPROACH | 1

PROJECT UNDERSTANDING

The City of Riverside Public Utilities Department (RPU) is seeking professional engineering consulting services to provide engineering, design, and technical support for pole replacements, vault replacements or refurbishment, and line reconductors.

NV5 understands that the project will require a diverse range of services including electrical, civil, and structural engineering, as well as survey, project management, and construction management support. We have carefully selected staff with immense technical expertise and a proven record of delivering successful projects of similar scope to both RPU and neighboring electric utilities.

NV5 has an excellent working relationship with many utilities, working successfully to complete numerous distribution engineering projects. Our team members have managed, planned, designed, and implemented a wide variety of projects for other utilities with similar components. We have thoughtfully taken into account the overall project goals and objectives.

NV5 OFFERS THE FOLLOWING ADVANTAGES TO RPU.

- ✓ **Commitment to Meet the Schedule with an Emphasis on Quality** – We have proven quality management system processes and procedures so our work is done right and delivered on time.
- ✓ **Locally Based Project Team** – All work will be managed and executed from our Corona office, which is approximately 15 minutes from RPU.
- ✓ **Knowledge and Familiarity with Distribution Standards** – The team assigned to this project has extensive experience with distribution design standards and processes.
- ✓ **Resource Availability** – Our locally based resources are readily available and have the capacity to complete the work within the projected project schedule.

PROJECT SCOPE

NV5's in-house electrical, civil, and structural engineering groups, along with survey, project management, and construction management support services, will work together to complete the following project services.

Project 1 – Eighteen (18) Pole Replacements: This first project will focus on replacement of eighteen (18) distribution poles using the latest RPU design standards. NV5 will deliver a complete engineering design, and provide technical and construction support, to replace these poles and upgrade equipment or secondaries where applicable.

Project 2 – Vault Replacement and Refurbishment: The second project will focus on replacement of two BTE structures and repairing or replacing one vault. NV5 will deliver a complete engineering design, and provide technical and construction support, to replace or refurbish these three structures.

Project 3 – Line Reconductor: The final project will focus on replacement of a section of poles and overhead conductors along Central, between Victoria and Fairview. NV5 will deliver a complete engineering design, and provide technical and construction support, to replace primary wire in existing locations using the latest design standards.

NV5 will work hand-in-hand with RPU in an effort to manage and successfully complete these project deliverables. NV5 Project Management will provide overall project schedule management including monitoring project progress, budget, schedule deviation, and suggesting remedial measures. The project schedule will be generated and submitted utilizing Microsoft Project. NV5 will lead project meetings with RPU when necessary or requested; including preparing agendas, meeting minutes, and action item lists.

DISCUSSION OF TECHNICAL TASKS

The following technical tasks will be performed to fulfill all engineering design services for pole replacements, vault replacements, vault refurbishment, and line reconductors.

STATEMENT OF UNDERSTANDING AND APPROACH | 2

FIELD VISITS

Field visits will be required for all three projects to acquire the necessary pictures and information for the design of replacement or refurbishment plans to upgrade the facilities to RPU's standards and expectations. NV5 will work with a RPU-approved Qualified Electrical Worker to coordinate and oversee access to energized structures. We will provide experienced overhead and underground engineers, along with ex-lineman supervisory staff when applicable, to assess RPU's existing facilities and determine the safest, effective, and constructible solutions to meet RPU's standards and project goals. Photos and notes will be gathered and delivered to RPU for future system records.



ENGINEERING ANALYSIS

Wind Loading

For the first and third projects, SPIDAcad will be used to analyze the impact of structural and wind load cases on each structure and its attached equipment and conductors. NV5 will design these pole upgrades up to RPU and G095 standard specifications, but will work with RPU staff if it's deemed a standard or preferred material isn't sufficient based on these specific engineering analyses.

Vault Refurbishment

For the second listed project, NV5 will use the engineering software applications ENERCALC and Mathcad to determine the extent of refurbishment required to safely repair and maintain Vault 1648 for continued operation in the RPU electric distribution network. NV5 will analyze the existing concrete, rebar, and any other structural components in the existing vault to assess whether a modification, upgrade, or replacement of any components are required for the continued safe and effective use of this structure.

Design Drawings

NV5 will use the latest version of AutoCAD, compliant with the latest version of RPU's Engineering Drafting Standards, to provide drawing deliverables for all three projects. Each drawing will show the project location, removal scope, installation instructions, and any contractor notes to identify field conditions. Each design drawing will be supplemented with a material list and reference to applicable standards, to aid in estimation and construction coordination needs.

Joint Pole Agreements (JPA)

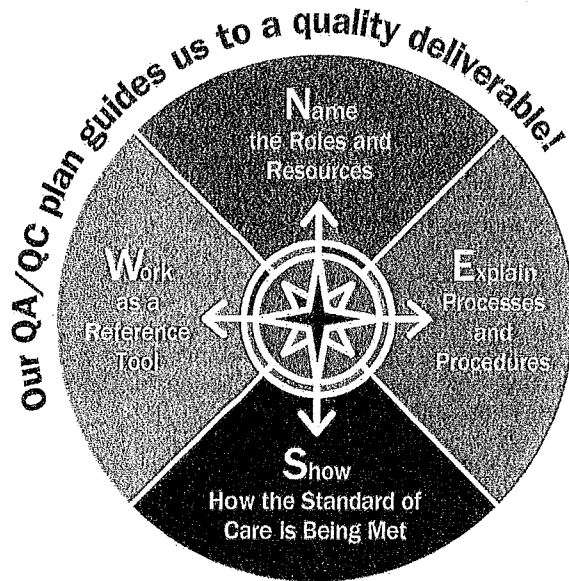
NV5 will work with RPU staff to prepare and submit the JPA Form 2's on all pole replacements and upgrades. We understand and will comply with the specific timing and detail requirements of the JPA process to ensure proper coordination amongst the impacted SCJPC members.

Construction Support

For the first and third projects, upon completion of each work order, NV5 will redline the drawings and material lists to assure proper reconciliation in RPU's system records. If a unique challenge was encountered in the field, which could benefit the future application of RPU standards or standard practices, NV5 will document and recommend these potential changes for RPU's future consideration.

STATEMENT OF UNDERSTANDING AND APPROACH | 3

QUALITY ASSURANCE/ QUALITY CONTROL PROGRAM



NV5 recognizes that quality assurance and quality control are essential elements of a successful design, and thus our QA/QC program is a critical foundation of NV5's design and field practices. The NV5 QA/QC program is effective, recognized as a project line item, fully funded at the project budget level, and given adequate time in the project schedule for the full project review process.

To keep with NV5 policy and sound engineering practices, all designs, drawings, specifications, cost estimates, and other contract documents and reports produced by NV5 are to be checked prior to final submission. An experienced, independent QA/QC reviewer will be selected to conduct the review for each discipline. Reviewers typically include qualified engineers from other NV5 groups, all dependent on the type of design or the level of completion to be reviewed. The selected reviewer has an experience level equal to or greater than that of the individual design engineer.

The tools needed to implement a sound QA/QC process include good project management tools, such as a well-defined scope and a "project work plan," design procedures, oversight of construction methods, and project implementation/closeout practices.

COMMUNICATION PROTOCOLS, ON-SITE MEETING AND CONFERENCE CALLS

NV5 regularly uses technology, such as Skype for Business, WebEx



GoToMeeting

and GoToMeeting, to collaborate on work, and to train and communicate efficiently and effectively between our offices and with our clients. NV5 does not consider satellite offices as isolated working groups and maintains constant communication with staff between offices. NV5 also understands the importance of face-to-face meetings – at the office or on-site – and NV5 is committed to provide any level of on-site support that RPU requires to assure successful projects.

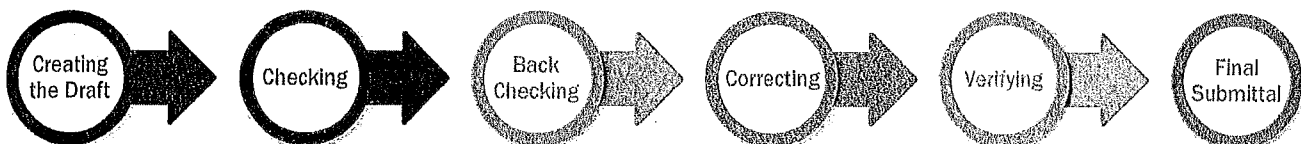
NV5 will provide project management services to oversee the timely production and delivery of all deliverables. The project manager will initiate the project with either an in-person or conference call kickoff meeting to verify project expectations and establish individual lines and protocols of communication. Verification of the ultimate project deliverables and project milestones will be a part of this event. NV5 will gather stakeholder's input as needed/appropriate, and provide feedback and follow up at onsite meetings as-needed.

NV5 will coordinate and provide schedules, meetings, meeting minutes, conference calls, and project status/tracking reports to identify specific milestones and hurdles as requested or as deemed necessary.

STRATEGIES FOR OVERCOMING POTENTIAL HURDLES AND OBSTACLES

There are many structured approaches to solve problems. Most follow a step-by-step process to define problems, identify causes, and to determine the best solution, but at NV5 we also provide the experience that makes the difference between a successful and unsuccessful project. Our project teams are nationally recognized leaders – we are equipped with a wide range of individual professional skills throughout the state of California and a national team of engineering professionals in many disciplines available to provide the right solutions to your engineering needs.

NV5 is committed to providing RPU with a project manager, project engineer, and experienced support team that has worked on many similar projects.



STATEMENT OF UNDERSTANDING AND APPROACH | 4

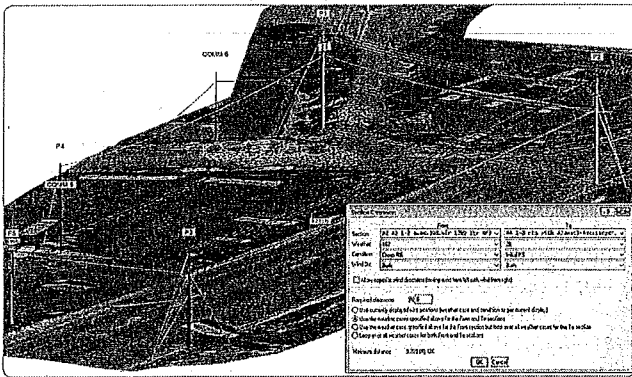
OPPORTUNITIES FOR OPTIMIZATION AND VALUE ENGINEERING

NV5 understands that RPU prefers the use of SPIDAcalc for all distribution pole loading analyses. NV5 would like to recommend the use of Power Line Systems' PLS-CADD software that offers a more efficient and effective solution for the third reconductor project, since there are a large quantity of poles to be modeled in this continuous line segment.

With PLS-CADD and its PLS-POLE modeling program, the user can use survey data to create a complete 3D model capable of analyzing finite-element interactions between complex structure and wire elements with specific structure and weather load cases. The advantage to PLS-CADD's finite element analysis approach is that it eliminates conservative assumptions that are made in ruling-span analyses, since the program accurately models the inherent flexibility of structures and wires in varying load cases. This analysis approach allows the user to confidently design for the most extreme situations with the most effective selection of structural components.

For comparison's sake, San Diego Gas & Electric requires all distribution projects with 10 or more poles to be modeled in PLS-CADD to assure appropriate pole loading calculation and clearance compliance practices are followed.

NV5's price in this proposal is based on the use of RPU's preferred SPIDAcalc program, but we can provide an alternate price for modeling Project 3 with PLS-CADD upon request.



STAFFING UTILIZATION

The assembled team will be overseen by Doug Taft, our proposed Principal-in-Charge. Doug will be available for contract negotiation, important decisions, team oversight, and overall project management.

Gary Clark will be the Senior Project Manager and main point of contact. He has extensive experience in providing T&D engineering and project management services. Gary will oversee the daily needs of your project and will manage the staff, schedule, and budget.

Our locally based resources are readily available and have the capacity to complete the work within the projected schedule. Our staff based in Corona, just 15 minutes from RPU, will be assigned to this project upon award. Additional resources in San Diego, Irvine, Palm Desert, and other parts of the country are available as needed.

PROJECT SCHEDULE MANAGEMENT

Experience makes the difference between a successful and unsuccessful project and NV5 brings direct experience working with RPU. NV5's approach to keeping this project on-time and within budget includes:

The Right Project Team: NV5 is committed to providing RPU with a project manager, project engineer and experienced support team that has worked on similar projects before—the team identified on the organizational chart will be used for all work related to this project.

Clearly Defining the Project Scope: Identify project needs versus wants and set priorities.

Communication: Gather stakeholder input as needed/appropriate.

Schedule: Create a comprehensive project schedule and identify specific milestones.

Budget: Prepare a complete budget early in the process, update it regularly and adjust to accommodate RPU's budget allocation.

Evaluation: Assess the project requirements and design criteria to provide value engineering.

Preparation: Organize clear, concise construction documents and specifications.

Support: Assist RPU as needed through the life of the project.

NV5 — and in particular the NV5 staff assigned to RPU's project — has direct experience working on similar projects. Our approach includes support of RPU's mission and application of our knowledge of your contract and review procedures, design criteria, approval processes and expectations on this project.

Based on our current workload forecast we do not have any issues with resource availability over the anticipated project schedule. We have the full capacity to execute this work and more, as needed, in the time-frame as defined in the RFP.

PROJECT SCHEDULE

NV5 understands how critical the schedule can be for a project to provide quality and timely production of all tasks. Carefully established milestones help us track our actual progress against cost.

The project schedules included on the following pages correspond to the tasks of our work plan. The schedules illustrate how we plan to accomplish the project tasks, and presents the detailed sequence of tasks and events we envision for the final project deliverables. This will also serve as a road map for the optimal execution of the projects. As the project is kicked off, we will revisit the schedule with RPU to assure we have a coherent plan for these important projects.

Besides being a statement of our plan for the execution of this project, our schedule is a prediction for the duration of each of the various tasks involved in the design.

The proposed schedules assumes that NV5 would receive notice to proceed on January 7th, 2018. Please note that two of the three projects are dependent on the final construction schedule, and therefore the end dates can vary based on that timeline determined by RPU.

STATEMENT OF UNDERSTANDING AND APPROACH | 6

POLE REPLACEMENTS SCHEDULE

ID	Task Mode	Task Name	Duration	Start	Finish	Predecessors	2019				
							Qtr 4, 2018 Sep Oct Nov Dec	Qtr 1, 2019 Jan Feb Mar	Qtr 2, 2019 Apr May Jun		
1		RPU Project 1 - Pole Replacements	105 days	Mon 1/7/19	Fri 5/31/19						
2		Kickoff Meeting and Initial Data Acquisition	5 days	Mon 1/7/19	Fri 1/11/19						
3		Site Visits	10 days	Mon 1/14/19	Fri 1/25/19						
4		Wind Loading Analysis	25 days	Mon 1/28/19	Fri 3/1/19						
5		Design Drawings, Material Lists, JPA Forms	20 days	Mon 3/4/19	Fri 3/29/19						
6		As-Built Support (depends on RPU construction schedule)	45 days	Mon 4/1/19	Fri 5/31/19						

STATEMENT OF UNDERSTANDING AND APPROACH | 7

VAULT REPLACEMENT OR REFURBISHMENT SCHEDULE

ID	Task Mode	Task Name	Duration	Start	Finish	Predecessors	2019											
							Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May			
1		RPU Project 2 - Vault Replacement or Refurbish	80 days	Mon 1/7/19	Fri 4/26/19													
2		Kickoff Meeting and Initial Data Acquisition	5 days	Mon 1/7/19	Fri 1/11/19													
3		Site Visits	10 days	Mon 1/14/19	Fri 1/25/19 2													
4		Structural and Electrical Engineering Analysis	45 days	Mon 1/28/19	Fri 3/29/19 3													
5		Design Drawings and Material Lists	20 days	Mon 4/1/19	Fri 4/26/19 4													

STATEMENT OF UNDERSTANDING AND APPROACH | 8

LINE RECONDUCTOR SCHEDULE

ID	Task Mode	Task Name	Duration	Start	Finish	Predecessors	2019											
							8 Sep	Qtr 4, 2018	Qtr 1, 2019	Qtr 2, 2019	Qtr 3, 2019	Qtr 4, 2019	Qtr 1, 2020	Qtr 2, 2020	Qtr 3, 2020	Qtr 4, 2020	Qtr 1, 2021	Qtr 2, 2021
1		RPU Project 3 - Line Reconstructor	120 days	Mon 1/14/19	Fri 6/28/19													
2		Kickoff Meeting and Initial Data Acquisition	10 days	Mon 1/14/19	Fri 1/25/19													
3		Site Visits	15 days	Mon 1/28/19	Fri 2/15/19													
4		Wind Loading Analysis	20 days	Mon 2/18/19	Fri 3/15/19													
5		Design Drawings, Material Lists, JPA Forms	20 days	Mon 3/18/19	Fri 4/12/19													
6		As-Built Support (depends on RPU construction schedule)	55 days	Mon 4/15/19	Fri 6/28/19													

OUR FIRM



NV5 is a firm of professionals that directs their talent and experience into creating better solutions. We are a publicly-owned and traded national corporation, incorporated in California. We have a reputation

for excellence earned from a long list of clients, with a focus on communities and a mission to use engineering to improve the quality of those communities. Our services are traditional — engineering, planning, surveying, construction management, and construction support — but our attitude, approach, and delivery are unique. The relationships we establish with our clients, our commitment to sustainability, and our involvement in the communities we live and work in, sets us apart from other companies. The result is that we go beyond engineering every day, for every client, in a way that exceeds our clients' expectations.

POINT OF CONTACT

Gary Clark, PE, Senior Project Manager
909.544.2492 | gary.clark@NV5.com

BRANCH OFFICES

1101 California Avenue, Suite 209
Corona, CA 92881
951.339.3782

15092 Avenue of Science, Suite 200
San Diego, CA 92128
858.385.0500

CORPORATE OFFICE

200 South Park Road, Suite 350
Hollywood, FL 33021
954.495.2112

LEGAL FORM OF COMPANY

California Corporation

COMPANY RESOURCES

NV5 staff have served southern California clientele for 69 years. Our longevity in the region provides RPU with a consultant who has a clear understanding of local issues as they relate to the successful completion of projects. Firm-wide, we offer more than 2,000 professional engineers, land surveyors, and support staff in 100 offices worldwide. In southern California alone, we have over 350 personnel located in 10 offices to respond quickly and easily to your needs.

Additionally, our staff have worked on projects for utilities and public agencies for decades. NV5's diverse talent base and cutting-edge technological platforms will enable fast response to your needs.

AWARDS AND STATISTICS

ENR
Engineering News-Record

#45

Top 500
Design Firms
2018

#87

Top 150
Global Design
Firms

#25

Top 100
Pure Design
Firms

100 LOCATIONS
WORLDWIDE

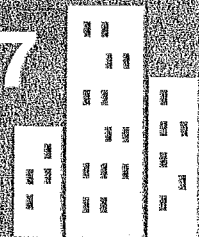
2,200 EMPLOYEES

1,300 TECHNICALLY
LICENSED



2017 CSE Top 25
Cx Giants

#7



TOP RANKED

#1

2018 **HOT FIRM**
ZWEIG GROUP

FORTUNE

#13

Fastest Growing
Companies 2017

MEP
GIANTS
2018
Top 100

#36



ISNETWORLD
A Rating

TEAM STRUCTURE

Over the years, NV5 has achieved an enviable reputation for quality, integrity, and responsiveness to our clients. Because of this, we attract individuals who are excited by their work. Our commitment to quality is reflected in every job we do.

We have assembled a team of highly qualified professionals in all of the required disciplines for your project. Our team includes licensed civil and electrical engineers, certified project management professionals, and a diverse support staff. The organizational chart below shows our key personnel and their roles. All credentialed team members' licenses and registrations are current. Resumes for each team member are provided on the following pages.

LINES OF COMMUNICATION

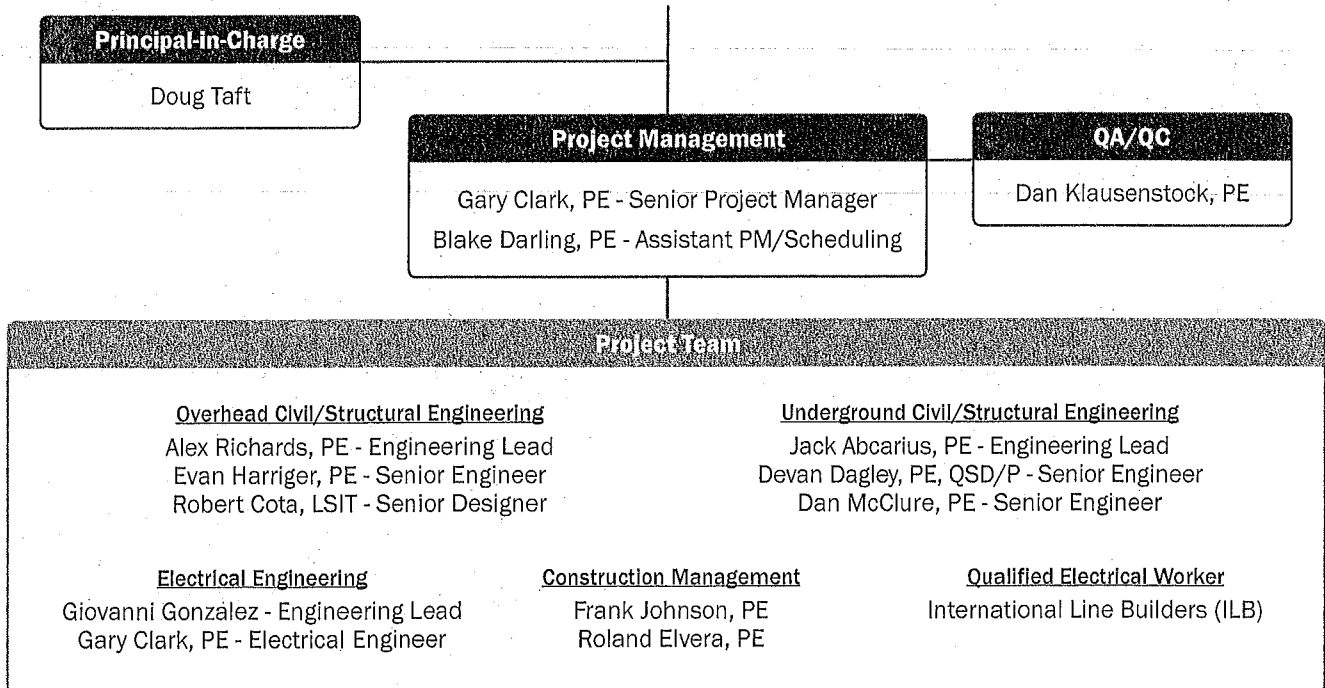
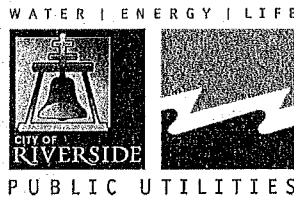
An essential element of NV5's project management approach is communication. We regularly use face-to-face meetings and phone calls to keep you updated. We also use email to quickly provide progress updates, communicate with the team, RPU staff, as well as share documents.

A successful project largely depends on the efficiency of its communication network—Communication starts on day one and continues for the life of the project.

SUBCONSULTANT

For over eight years, NV5 has partnered with International Line Builders because they are on the RPU approved Qualified Electrical Worker list, they are locally based in Riverside allowing for convenient scheduling, and they have decades of electrical substation, transmission, and distribution experience.

ORGANIZATIONAL CHART



DOUG TAFT **PRINCIPAL-IN-CHARGE**

Doug has 27 years of project management, mechanical, civil, survey, drafting, design, and construction experience. His extensive experience allows him to offer expert analysis on electric transmission projects. Doug has led the design and project management of RPU, SCE, and SDG&E projects for over 17 years. He oversees NV5's power projects throughout the design and submittal process. Doug has managed projects for a variety of municipal agencies, other EPC contractors, and utility clients.

PROJECT EXPERIENCE

UNDERGROUND DISTRIBUTION AMPACITY STUDY CITY OF RIVERSIDE PUBLIC UTILITIES | RIVERSIDE, CA

Principal-in-charge to provide recommended normal and emergency operating ampacity limits while confirming 4kV and 12kV underground getaway installation details at each RPU substation. This ampacity study consisted of 124 distribution circuit getaways at 11 RPU substations along with the dozens of underground structures and above-ground switchgear that were investigated at each substation to determine or confirm each circuit's underground path.

ARTESIAN 230KV SUBSTATION EXPANSION BARNARD CONSTRUCTION CO. (OWNER: SDG&E) | SAN DIEGO, CA

Principal-in-charge on this large EPC project to rebuild and expand the SDG&E Artesian Substation near 4S Ranch in San Diego County. The project will double the size of the existing substation by first rebuilding the 69/12kV substation to a better and larger facility East of the existing pad. The new 69kV yard will consist of an ultimate 6 breaker-and-half bay designed with the capacity for six lines and four 69/12kV power transformers. Once the new 69/12kV substation is energized a new 230kV yard will be built in place of the old substation intercepting an existing nearby 230kV line. The 230kV yard will consist of two breaker-and-half bays with an ultimate build out of two lines and two 230/69kV transformers.

LOS COCHES SUBSTATION (OVERHEAD AND UNDERGROUND TRANSMISSION AND DISTRIBUTION DESIGN TASKS) SDG&E | SAN DIEGO COUNTY, CA

Principal-in-charge. NV5 has been a consultant assisting SDG&E with expansion of its 69kV Los Coches Substation into an adjacent switchyard for 138kV transmission lines. NV5 designed a PLS-CADD overhead temporary relocation and transition design for one 69kV circuit and one 138kV circuit which were in the way of a hillside demolition plan. NV5 also assisted with routing and trench specifications of multiple 12kV and 69kV circuits being undergrounded along a new access road designed by NV5. We properly modeled via CYMCAP ampacity studies and cable type comparisons. We also provided PLS-CADD design support for modeling new cable pole locations and potential overhead conflicts.

EMAIL | PHONE

douglas.taft@NV5.com
858.385.2109

EDUCATION

AS Drafting Technology
AS Aviation Maintenance
Technology
Certificate Pro Engineering -
San Diego State University

EXPERIENCE

27 years

GARY CLARK, PE **SENIOR PROJECT MANAGER**

Gary has extensive project management experience in both the electrical contracting and electric utility sectors and has worked on a wide range of electrical engineering projects as a consultant, contractor, and electric utility engineer across the country. He has over 14 years of electrical engineering experience ranging from switchgear design and controller programming to electrical infrastructure including streetlighting, traffic signals, distribution, transmission, telecommunications, and substations. Electrical infrastructure engineering experience includes the design, analysis, simulation, maintenance, repair, and improvement of electric utility systems. Gary utilizes industry-leading software tools like PLS-CADD and CYME/CYMCAP to provide the highest levels of accuracy and thoroughness for both overhead and underground electric designs. Gary has served as both the engineer on record and project manager for many capital improvement projects collaborating with public works and electric utilities.

PROJECT EXPERIENCE

FIRE RISK MITIGATION (FIRM) PROGRAM **SDG&E | SAN DIEGO COUNTY, CA**

Lead project manager overseeing or coordinating all design, survey, and construction support tasks. The project has focused on replacing older 4kV and 12kV overhead distribution line elements using new technology and stricter design standards. NV5 survey crews support initial PLS-CADD design data acquisition via traditional ground survey, High Definition Scanning (HDS), and aerial LiDAR via UAV or Helicopter. NV5 distribution designers and engineers utilize PLS-CADD 3D line design software to model existing and new overhead facilities to confirm structural integrity, conductor sagging, and appropriate phase and ground clearances. The NV5 design team utilizes existing circuit information, job-walk feedback, PLS-CADD model analysis, and SDG&E Standards and department responses to create overhead and underground designs, SCADA plan, and Work Management Software labor and material entries to produce a construction-ready job package.

UNDERGROUND DISTRIBUTION AMPACITY STUDY **CITY OF RIVERSIDE PUBLIC UTILITIES | RIVERSIDE, CA**

Senior electric utility engineer and project manager in charge to provide recommended normal and emergency operating ampacity limits while confirming 4kV and 12kV underground getaway installation details at each RPU substation. This ampacity study consisted of 124 distribution circuit getaways at 11 RPU substations along with the dozens of underground structures and above-ground switchgear that were investigated at each substation to determine or confirm each circuit's underground path.

EMAIL | PHONE

gary.clark@NV5.com
909.544.2492

EDUCATION

MS Engineering Management
BS Electrical and
Computer Engineering

EXPERIENCE

14 years

REGISTRATIONS/CERTIFICATIONS

Professional Engineer -
CA #E19910

Other States - AZ, CO, NM,
NV, UT, OR, and WA

Certificate Construction
Safety and Health - OSHA

Certificate Disaster Management,
Power Systems - Texas A&M

Certificate Overhead Distribution
Systems - APPA Academy

Certificate Underground
Distribution Systems
- APPA Academy

Certificate NESC Overhead
Strengths and Loadings - IEEE

Certificate Power Cable Ratings
and Soil Considerations - PDC

PROFESSIONAL AFFILIATIONS

Senior Member, IEEE

Senior Member, IEEE Insulated
Conductors Committee

Standards Chair, IEEE Insulated
Conductors Committee

GARY CLARK, PE (CONT'D)
SENIOR PROJECT MANAGER

**TRANSFORMER REPLACEMENTS AT FREEMAN
AND MT. VIEW SUBSTATIONS**

**CITY OF RIVERSIDE PUBLIC UTILITIES |
RIVERSIDE, CA**

NV5 is providing evaluation, design, and technical support services for two new high-voltage transformer replacements at two existing substations (Freeman and Mountain View). NV5 utilized in-house Civil, Electrical, and Geotechnical engineering staff, along with Survey support, to design two new transformer foundations and successfully integrate the new transformers into existing substation infrastructure. We also contracted to provide Construction Management support at both substations.

MIRA SORRENTO SUBSTATION

SDG&E | SAN DIEGO, CA

NV5 was the lead consultant for site civil design and associated T&D undergrounding for this new 69kV substation. Gary assisted with designing an overhead and underground SCADA fiber expansion to connect Mira Sorrento Substations to the existing SDG&E substation fiber optic network. This required a creative PLS-CADD design in order to bring fiber in from the opposite side of the adjacent large transmission corridor. Gary utilized NV5's new underground 69kV design in order to bring the final communication connection into the new substation via an existing cable pole and our new getaway underground route. Gary also provided ampacity study design support for both the underground 69kV and 12kV getaway trenches to assure that future loading needs will be sufficiently planned for.

**LOS COCHES SUBSTATION (OVERHEAD
AND UNDERGROUND TRANSMISSION AND
DISTRIBUTION DESIGN TASKS)**

SDG&E | SAN DIEGO COUNTY, CA

NV5 has been a consultant assisting SDG&E with expansion of its 69kV Los Coches Substation into an adjacent switchyard for 138kV transmission lines. For this project Gary first designed a PLS-CADD overhead temporary relocation and transition design for one 69kV circuit and one 138kV circuit which were in the way of a hillside demolition plan. Gary also assisted with routing and trench specifications of multiple 12kV and 69kV circuits being undergrounded along a new access road designed by NV5. Gary worked closely with SDG&E planners and engineers to ensure present and future loading needs were considered and properly modeled via CYMCAP ampacity studies and cable type comparisons. Gary also provided PLS-CADD design support for modeling new cable pole locations and potential overhead conflicts.

SUNSET AVENUE GRADE SEPARATION PROJECT

CITY OF BANNING | BANNING, CA

Senior electric utility engineer and project manager in charge of electric utility's scope of work for the federal and county funded capital improvement project at one of Banning's busiest railroad crossings. Electric Utility improvements included undergrounding 12kV distribution network, undergrounding 69kV transmission network, undergrounding existing distribution SCADA network, coordinating joint trenching and pole removals with other affected utilities, establishing new easements as needed for revised electric system design, and coordinating temporary pole route to accommodate time-sensitive construction needs of railroad and street improvement contractors.

BLAKE DARLING, PE

ASSISTANT PROJECT MANAGER/SCHEDULING

Blake has 9 years of gas and electric utility engineering and project management experience. He brings a passion for the work he does and drives safety initiatives both in the office and on the jobsite. Blake's attention to quality control measures and meeting the client's goals through careful process controls has allowed him to successfully manage project of all sizes through to successful completion. Recent examples of Blake's project management experience include the retrofit of approximately 100 miles of transmission pipelines to accommodate internal inspection technology and the design and construction of 311 transmission compliance pole replacements.

PROJECT EXPERIENCE

TRANSMISSION COMPLIANCE PROGRAM

SDG&E | SAN DIEGO, CA

Developed a detailed engineering program flow and quality control measures to address the rapidly expanding transmission compliance replacement program at SDG&E. Blake implemented a 4-stage engineering phase/gate system to provide timely updates and traceable milestones for tracking engineering, permitting, and procurement progress for 311 individual compliance pole replacement jobs. Creation of this program flow required close collaboration with many different internal and external stakeholders, all of which had very specific requirements to be addressed.

PSEP PROGRAM

SDG&E | SAN DIEGO, CA

Provided engineering and program scope for the SDG&E PSEP program during the CPUC Memorandum Account development for what later became the PSEP program. Served as the distribution engineering advisor through the first phase of PSEP implementation, which included the replacement of pipelines 49-32, 49-26, and 49-16, the removal of pipeline 49-22, and the engineering design for all remaining DOT-transmission pipelines in SDG&E's territory.

DIRECT-EMBEDDED STEEL POLE CORROSION RISK EVALUATION

SDG&E | SAN DIEGO, CA

SDG&E adopted the widespread practice of installing direct-embedded steel transmission poles in 2007 and growing concern about sub-grade corrosion prompted the utility to commission a study of above and below-grade corrosion risks in San Diego County. Blake acted as project manager for the characterization, sampling, and assessment of SDG&E's existing direct-embedded steel transmission poles. The program required hiring a corrosion specialist to characterize the atmospheric and soil corrosivity risks in the SDG&E territory and selection of key structures to sample for corrosion damage. With the system characterized and field-verified, a larger sample of at-risk structures were selected to evaluate for corrosion damage based on location relative to identified corrosion hot spots. Engineering and construction standard practices were developed to mitigate corrosion risks on infrastructure installed in the future.

EMAIL | PHONE

blake.darling@NV5.com
858.385.2236

EDUCATION

BS Mechanical Engineering

EXPERIENCE

9 years

REGISTRATIONS

Professional Engineer -
CA #M35131

DAN KLAUSENSTOCK, PE
QUALITY ASSURANCE/QUALITY CONTROL

Dan has over 34 years of experience with 28 of those years in the electric utility industry at San Diego Gas & Electric developing a multitude of experience in the generation, transmission, and distribution of electric power. Dan's experience at SDG&E was in the implementation of smart grid projects including switch automation and data acquisition systems. Prior to smart grid, Dan led a team of engineers and designers at SDG&E in the Transmission Engineering and Design Group for 10 years. This group developed standards, performed electrical component plant on site audits and approvals, managed and engineered large capital transmission line projects, 69kV through 230kV, both overhead and underground, from concept through construction and commissioning.

PROJECT EXPERIENCE

LAGUNA NIGUEL RELIABILITY ENHANCEMENT
CITY OF LAGUNA NIGUEL | LAGUNA NIGUEL, CA

Project manager responsible for the engineering and design of the Laguna Niguel Reliability Enhancement Project. This project was worked in collaboration with the City of Laguna Niguel to eliminate the risk resulting from erosion and slope failure affecting two 138kV transmission pole lines located in a steep unstable canyon. The solution to place underground a total of 4 miles of 138 kV pole line is currently in construction and will ultimately eliminate the risk of fire and an extended citywide blackout.

230KV SUNRISE POWER LINK
SDG&E | SAN DIEGO COUNTY, CA

Supported the 230kV underground portion of the Sunrise Project. Reviewed plan and profiles and design. Worked and advised the UG Project Manager as needed. Provided field support during construction and testing.

SYCAMORE CANYON TO PENASQUITOS (SX-PQ) 230KV
COASTAL POWER LINK

SDG&E | SAN DIEGO COUNTY, CA

Engineering, design, Public Utility Commission permitting, and construction support of a 12 mile, 230 kV, underground transmission line through urban and commercial areas of San Diego to provide a power link allowing bulk power to flow from the burgeoning supply of renewable energy being generated in Desert Areas east of San Diego to the Coastal Area. Required design of new systems to mitigate magnetic field effects including shielding and grounding as well as the design and implementation of an induction data acquisition and monitoring system. Numerous plant and product acceptance tests were performed including cable, electrical components, and magnetic shielding components.

EMAIL

dan.klausenstock@NV5.com

EDUCATION

BS Mechanical Engineering,
 Emphasis in Electric
 and Power Systems

EXPERIENCE

34 years

REGISTRATIONS/CERTIFICATIONS

Professional Engineer -
 CA #M30805

ALEX RICHARDS, PE OVERHEAD CIVIL/STRUCTURAL LEAD

Alex has worked on a wide variety of overhead transmission, distribution, and telecommunication projects. As a consultant with 12 years of experience, he has design experience ranging from 4kV to 500kV on jobs from preliminary design in support of permitting to EPC construction support. He is well versed in overhead line design, steel pole load calculation/design and foundation design, and has served as engineer of record on many projects. Alex has extensive knowledge using the industry standard software PLS-CADD, PLS-Pole, PLS-Tower, and MFAD. He has developed and taught training courses for transmission line design and software programs for utilities around the country. Alex has worked with the National Electric Safety Code, General Order 95, and the Canadian Electrical Code. Alex is also the secretary of the ASCE Task Committee for the Aesthetic Design of Transmission Line Structures.

PROJECT EXPERIENCE

ELECTRIC TRANSMISSION COMPLIANCE PROGRAM

SDG&E | SAN DIEGO COUNTY, CA

Developed and oversaw a team of 15 engineers and drafters that supported a utility's transmission maintenance and compliance program consisting of hundreds of pole replacements each year, marker ball additions, and complete assessments of 138kV and 69kV pole lines. Developed procedures and tools for managing projects and schedules and oversaw the development of a robust QA/QC program.

CLEVELAND NATIONAL FOREST POWER LINE REPLACEMENT

SDG&E | SAN DIEGO COUNTY, CA

Oversaw a team of six engineers and drafters to perform the design of three 69kV transmission line rebuilds. Projects consisted of over 30 miles of single circuit 69kV with distribution and communication underbuild through mountainous terrain. Projects included the design of over 300 engineered steel poles on micropile foundations.

SOUTHERN CALIFORNIA REBUILD

SDG&E | SAN DIEGO COUNTY, CA

Oversaw the design of five 69kV and 138kV wood-to-steel rebuild projects ranging from 2 to 15 miles in length. All projects included 12kV and communication underbuild. In addition to overseeing design and engineering, coordinated environmental and permitting efforts.

TELECOMMUNICATION DESIGN

NORTHWESTERN ENERGY, XCEL ENERGY, SOUTHERN CALIFORNIA EDISON, SDG&E | WESTERN UNITED STATES

Designed over 300 miles of telecommunication underbuild on overhead transmission and distribution systems across the western United States. Utilized various industry software to facilitate designs and coordinated construction efforts with construction crews in multiple states through many phase of construction.

EMAIL

alex.richards@NV5.com

EDUCATION

BS Civil Engineering

EXPERIENCE

12 years

REGISTRATIONS

Professional Engineer -
CA #C79466

Other States - CO, IL, and MO

EVAN HARRIGER, PE, LEED GA
OVERHEAD CIVIL/STRUCTURAL - SENIOR ENGINEER

Evan has worked on a wide variety of overhead transmission projects as a consultant in San Diego. He has over 10 years of design experience ranging from 12kV to 500kV on jobs from preliminary design in support of permitting to EPC construction support. He is well versed in overhead line design, steel pole load calculation/design and foundation design and has served as engineer of record on multiple projects. Evan has extensive knowledge using the industry standard software PLS-CADD, PLS-Pole, PLS-Tower, MFAD, and has led training sessions for these programs.

PROJECT EXPERIENCE

CAMP PENDLETON FIRE HARDENING
SDG&E | OCEANSIDE, CA

Engineering manager for four 69kV overhead transmission line rebuilds, ranging from 5-8 miles in length per line, as part of a wood-to-steel fire hardening program. Technical responsibilities for each project include PLS-CADD oversight, steel pole design, standard development, and QA/QC of all design documents and engineering drawings. Additionally has taken on project management duties including scope and fee development, monthly invoicing, and is serving as the main client point of contact.

CLEVELAND NATIONAL FOREST (CNF) POWER LINE REPLACEMENT
SDG&E | SAN DIEGO COUNTY, CA

Lead design engineer for the wood-to-steel rebuilt of TL682. The project consisted of over 20+ miles of single circuit 69kV with distribution and communication underbuild through extremely mountainous terrain. Oversaw the work of four junior engineers and responsible for project scheduling, design criteria development, PLS-CADD modeling, design of over 140 engineered steel poles, and final QA/QC of design submittals. Acted as the main point of contact, effectively communicating with multiple subconsultants, clients, and public agencies.

ELECTRIC TRANSMISSION COMPLIANCE PROGRAM
SDG&E | SAN DIEGO COUNTY, CA

Lead engineer for a compliance program that consisted of multiple single pole replacements, marker ball additions, and complete tieline structure analysis. Managed project deadlines and allocated work to the project team in order to maintain the program schedule. Responsible for the overall quality of designs and completed in-person design reviews for each project with the client, final QA/QC, and was ultimately engineer of record on multiple jobs. Additionally trained junior engineers on the technical details and PLS-CADD design software in order to grow the project team.

EMAIL

evan.harriger@NV5.com

EDUCATION

MBA Finance Concentration
 MS Structural Engineering
 BS Structural Engineering

EXPERIENCE

10 years

REGISTRATIONS/CERTIFICATIONS

Professional Engineer -
 CA #C82096
 Other States - WA
 LEED Green Associate

ROBERT (ROB) COTA, LSIT **OVERHEAD CIVIL/STRUCTURAL - SENIOR DESIGNER**

Rob has a wide range of experience including management of LiDAR production - post-acquisition LiDAR processing, LiDAR point classification, LiDAR technician training, product development and R&D for a large LiDAR and photogrammetry company on the California Central Coast from 2006 to 2014. He worked with over 30 major utilities across the United States and Canada to develop NERC compliance scope of work and provided Aerial LiDAR, Orthographic & Oblique photography services.

Rob augmented the engineering staff at El Paso Electric from 2013 to 2014 as a PLS-CADD engineering & LiDAR specialist consultant. He worked directly with El Paso Electric transmission engineers to develop in-house LiDAR quality control and as-built existing 69kV, 115kV, 230kV & 500kV transmission lines.

Rob's experience at NV5 began in 2014 as a PLS-CADD overhead distribution and transmission engineer designer. He assisted in the design & engineering of overhead rebuild projects ranging from substation getaways to wood to steel fire hardening projects.

PROJECT EXPERIENCE

FIRE RISK MITIGATION (FIRM) PROGRAM

SDG&E | SAN DIEGO, CA

Project manager for the FIRM program. The project is focused on the replacement of aging 4kV and 12kV overhead distribution wood poles and conductors with new steel poles and high strength conductors. NV5's team of distribution designers and engineers utilize PLS-CADD 3D line design software to model existing and new overhead facilities to confirm structural integrity, conductor sagging, and appropriate phase and ground clearances. Responsibilities include the management of engineering calculations, construction plans and standards compliance, quality control of design and engineering documents, as well as construction support and post-construction as-built reconciliation.

CAMP PENDLETON FIRE HARDENING

SDG&E | OCEANSIDE, CA

Lead PLS-CADD distribution underbuild designer. This project consisted of four 69kV overhead transmission line rebuilds, ranging from 5-8 miles in length apiece, as part of a wood-to-steel fire hardening program. Technical responsibilities as responsible engineer designer for these projects include PLS-CADD modeling, standard development and QA/QC of design documents and engineering drawings.

C354 RECONDUCTOR PROJECT

SDG&E | SAN DIEGO, CA

As part of a 3-year on-call services contract with San Diego Gas & Electric, NV5 is providing comprehensive design and drafting services on a variety of distribution projects throughout San Diego County. For this project, NV5 was tasked with providing design of the reconductor to rebuild the pole line to accommodate a future circuit. Deliverables included sketch, details, operating maps, TCPs, and the construction package. Served as the PLS-CADD technician on this project, provided engineering calculations and 3D modeling of the existing and proposed infrastructure. Pole loading analysis was performed to ensure existing poles met current standards and new poles exceeded current SDG&E & G095 standards.

EMAIL

robert.cota@NV5.com

EXPERIENCE

12 years

REGISTRATIONS

Land Surveyor in Training -
CA #8097

AFFILIATIONS

California Land Surveyors
Association (CLSA), Member

Urban and Regional Information
Systems Association
(URISA), Member

JACK ABCARIUS, PE **UNDERGROUND CIVIL/STRUCTURAL ENGINEERING - LEAD**

Jack is the structures and transportation group manager for NV5's San Diego office. He has provided civil and structural engineering services in California since 1983. Jack spent 10 years working in Caltrans' Office of Structures Design and he has extensive experience performing QA/QC on structural projects. His technical experience covers all aspects of the field from planning to final design, to construction inspection and support services. Jack is highly experienced in leading multi-disciplinary design teams on engineering projects.

PROJECT EXPERIENCE

POSEIDON DESALINATION PLANT **SDG&E | SAN DIEGO, CA**

In order to provide power to the Poseidon Desalination Plant, NV5's structures group designed an intricate support system consisting of structural steel frames, reinforced concrete wall and beams to support a total of 12-6" and 4-4" conduits. Jack was responsible for reviewing and QA/QC of the design and details to ensure constructability and structural adequacy. The project was completed successfully and on time.

30TH STREET BRIDGE OVERCROSSING - TRANSMISSION LINES **SDG&E | SAN DIEGO, CA**

Project manager responsible for the preparation of plans, specifications, and estimate associated with the structural modifications of an existing bridge over State Route 94 to accommodate SDG&E's Transmission Undergrounding lines. Our designs required extensive coordination with Caltrans Structures staff as well as the District Permit Engineer for final approval. Our familiarity with Caltrans Policies and Procedures ensured successful completion of this one-of-a-kind, award-winning project.

30TH STREET BRIDGE OVERCROSSING - DISTRIBUTION LINES **SDG&E | SAN DIEGO, CA**

Upon our success with the Transmission Undergrounding project, SDG&E came back for help on undergrounding their distribution lines along this same stretch of roadway. To try and go back through the cells of the box girder bridge would have been a difficult task at best to get through Caltrans. These lines carry a much smaller voltage than Transmission Lines, so we recommended going through the bridge sidewalks which required the removal and reconstruction of the sidewalks and old outdated railings. This win-win approach facilitated our process and approval through Caltrans.

ISLAND AVENUE BRIDGE OVERCROSSING **SDG&E | SAN DIEGO, CA**

NV5 prepared plans, specifications, and estimates for undergrounding transmission lines through Island Avenue Bridge over I-5. Full coordination and oversight was required by Caltrans.

EMAIL

Jack.abcarius@NV5.com

EDUCATION

BS Civil Engineering

EXPERIENCE

35 years

REGISTRATIONS/CERTIFICATIONS

Professional Engineer -
CA #C40459

Other States - FL

Certificate ASCE Commendation
as Outstanding Civil Engineering
Student - California State
University Sacramento

Certificate Completion for
Module I Value Analysis/
Value Engineering

DEVAN DAGLEY, PE, QSD/P
UNDERGROUND CIVIL/STRUCTURAL - SENIOR ENGINEER

Devan is a senior engineer in NV5's structural group where he brings more than 11 years of project experience. He is well-versed in providing structural construction management, performing inspections (both during and post-construction) and structural calculations of new and existing buildings to determine code-prescribed forces or as-built capacity. He has worked extensively on projects conforming to CBC, IBC, and Caltrans/AASHTO Bridge Design Codes, among others.

PROJECT EXPERIENCE

GLORIETTA BAY CONCRETE STRUCTURE REHABILITATION
CITY OF CORONADO | CORONADO, CA

Provided structural analysis of existing wet well structure and design of concrete repairs. Repairs included removing spalling concrete to sound concrete, sand blasting all concrete and epoxying new rebar and applying a shotcrete topping. Due to the corrosive and harsh environment, the concrete and reinforcement were significantly corroded and compromised. Where reinforcement had lost more than 50% of original cross sectional area, the installation of new rebar was necessary. This was accomplished by drilling and bonding new reinforcement. Once all repairs were completed, Contractor installed new epoxy coating over entire interior wet well surface.

LOS COCHES SUBSTATION IMPROVEMENT
SDG&E | LAKESIDE, CA

Performed structural design on various elements, including CMU site walls, concrete sediment basin, concrete retaining walls, CMU retaining walls, grade beams, in addition to performing periodic site inspections, reviewing contractor submittals, and performing internal QA/QC of drawings.

ENERGIA SIERRA JUAREZ (TIE LINE TO ECO SUBSTATION)
SDG&E | JACUMBA, CA

Structural EOR for the design of deep foundations for steel lattice transmission towers. Performed structural calculations using software and traditional methods. Interfaced with Design Engineers in Mexico in order to validate the tower design. Worked closely with geotechnical engineers in order to ensure compliance with geotechnical requirements during design of foundations.

ISLAND AVENUE SIDEWALK REPAIR
SDG&E | SAN DIEGO, CA

Performed full time site inspections and acted as Owner's Structural Representative. Responsible for maintaining daily work logs, reviewing submittals, coordinating/interfacing with Caltrans Resident Engineers to verify compliance with Caltrans standards. Observed demolition activities, installation of utility conduits within sidewalk, placement of concrete (including testing and sampling of concrete) at sidewalk both on and off bridge structure. Interfaced with SDG&E contractor, Caltrans and City of San Diego representatives. Utilities were both electrical distribution and transmission. Island Avenue bridge crossed over Interstate 5, meaning all work was performed within the Caltrans right-of-way.

EMAIL

devan.dagley@NV5.com

EDUCATION

MS Civil Engineering
 BS Structural Engineering

EXPERIENCE

11 years

REGISTRATIONS/CERTIFICATIONS

Professional Engineer -
 CA #C78462
 Other States - AZ, UT, and TX
 Qualified SWPPP Developer/
 Practitioner (QSD/P) - CA #23714
 Certified Cal-OES SAP Disaster
 Service Worker - #81164

DANIEL (DAN) McCLURE, PE
UNDERGROUND CIVIL/STRUCTURAL - SENIOR ENGINEER

Dan is an accomplished professional engineer with more than 18 years of expertise in civil, structural, and transmission line engineering. Dan has extensive experience with high-voltage transmission power delivery projects, construction, and field engineering, as well as engineering for commercial, industrial, and education clients.

PROJECT EXPERIENCE

SAN LUIS REY SUBSTATION
SDG&E | SAN LUIS REY, CA

Senior transmission line engineer responsible for the design of two 230kV overhead to underground transition steel monopole structures. Developed load trees using a 3D PLS-CADD and PLS-POLE model with utilizing hand calculations ensuring conformance with G.O.-95 and client-specific requirements.

MITIGATION OF LANDSLIDE DAMAGE TO DISTRIBUTION SYSTEM
NAVAL BASE POINT LOMA | POINT LOMA, CA

Senior civil-structural engineer responsible for the design of deep drilled pier foundations supporting the overhead distribution structures as a part of repair to the overhead distribution system at the Point Loma Naval Base. The major project challenge was to develop a design to develop long-term resistance to landslide forces on the side of a hill. The design utilized a comprehensive geotechnical investigation and custom LPILE "p-y" curves to select a pier depth to adequately resist long term sliding soil forces.

138KV "PINEY TO WATTSVILLE" TRANSMISSION LINE
CONFIDENTIAL CLIENT | MARYLAND AND VIRGINIA

Senior transmission engineer and project manager responsible for the design of a 30-mile overhead 138kV transmission line project. The structures consisted of double circuit steel monopole structures supported on vibratory caisson and drilled piers. The design team was responsible for all phases of design and construction support including preparation of comprehensive construction packages.

230KV SUBSTATION UPGRADE
CONFIDENTIAL CLIENT | DISTRICT OF COLUMBIA AND MARYLAND

Senior structural engineer responsible for the structural analysis and design of substation structures and associated foundations to support multiple capacity upgrade projects. Structures consisted of steel lattice towers, frames, and tubular structures. Foundations consisted of concrete pier and spread footings.

69KV AND 115KV SAG MITIGATION AND REPAIR
CENTRAL HUDSON GAS & ELECTRIC | POUGHKEEPSIE, NY

Senior transmission engineer responsible for the multiple projects consisting of 115kV and 69kV transmission line NERC sag mitigation and high-priority structure replacements. Project responsibilities included complete NERC clearance analysis, lattice tower and wood structure evaluation, and the design of reinforcement modifications and replacement structures to correct clearance and structural deficiencies.

EMAIL

dan.mcclure@NV5.com

EDUCATION

MS Civil Engineering/Structures

BS Structural Engineering
 and Construction
 Engineering Technology

EXPERIENCE

18 years

REGISTRATIONS

Professional Engineer -
 CT, DE, MA, MD, ME, NH,
 NJ, NY, PA, VA, and WV

GIOVANNI GONZALEZ
ELECTRICAL ENGINEERING LEAD

Giovanni has 21 years of experience in providing professional project management and engineering services to public and private sector utilities. His experience include hundreds of transmission and distribution substation projects, such as replacing major electrical equipment, adding new line circuits, distribution substation's re-builds, upgrading relay protection/automation, among others. His expertise includes project management and coordination, planning, substation electrical design, cost estimating, material and contractor procurement, construction oversight, (high/low) equipment specifications, and several other project management tasks for O&M and Capital projects.

PROJECT EXPERIENCE

STETSON SUBSTATION 115/12KV
SOUTHERN CALIFORNIA EDISON | HEMET, CA

Project engineer responsible for the engineering/design of adding a 115kV transformer bank position, a 28MVA Transformer Bank, a 12kV Bank Position, and a 12kV 4.8MVAR capacitor bank. Work included developing a One Line/Elementaries, detailed Conduit and Grounding (Above/Below Ground) drawings, developing Wiring/Schematic diagrams, creation of the Bill Of Materials/Cable Schedule, and development of the Project Design Specification.

ALBERHILL SUBSTATION 500/115KV
SOUTHERN CALIFORNIA EDISON | RIVERSIDE, CA

Project engineer responsible for the Preliminary One Line, Plot Plan and Outdoor design. The substation is a greenfield with two 500kV Line Circuits, two 1120MVA Transformer Banks, five 115kV Line Circuits, and one 115kV Capacitor Bank. The 500kV equipment was Gas Insulated while the 115kV equipment was Air Insulated.

CONSTRUCTION OF A NEW 115/12KV CUSTOMER INTERCONNECTION SUBSTATION (KITCHING SUBSTATION)
CITY OF MORENO VALLEY | MORENO VALLEY, CA

Project manager responsible for project supervision, and oversight of all project electrical/civil/structural engineering design phases. The new substation consisted of two 20MVA 115/12kV transformer banks, four 12kV distribution lines, and a new control house building. Specifications were provided for (high/low) voltage equipment. Provided coordination with the interconnection utility.

DOWNS SUBSTATION 115/12KV
SOUTHERN CALIFORNIA EDISON | RIDGECREST, CA

Project engineer responsible for the engineering/design of the station conversion from 33/12kV to a 115/12kV, 84MVA and upgrading the protection system to SA-2. Work included switchrack re-configuration, developing the One Line/Elementaries, detailed Conduit and Grounding (Above/Below) drawings, developing the Wiring/Schematic diagrams, creation of Bill Of Materials/Cable Schedule, and development of the Project Design Specification Book.

EMAIL

giovanni.gonzalez@NV5.com

EDUCATION

MS Business Administration
BS Electrical Engineering

EXPERIENCE

21 years

CERTIFICATIONS

Certificate in Project Management
Certificate in Construction Management

FRANK JOHNSON, PE
CONSTRUCTION MANAGER

Frank brings more than 41 years of industry experience to NV5. Prior to joining NV5, he led numerous major projects on behalf of SDG&E, including the construction, commissioning and maintenance of key transmission and distribution substation facilities throughout Southern California.

PROJECT EXPERIENCE

**CONSTRUCTION OPERATIONS MANAGER,
MAJOR PROJECTS DEPARTMENT
SDG&E | SAN DIEGO COUNTY, CA**

Responsible for the oversight, guidance, technical support and interdepartmental coordination for construction, testing and commissioning for all substation and transmission line projects. SDG&E projects completed within the Major Projects organization were completed through EPC contracts and transferred to SDG&E operations upon completion. This included engineering, construction, testing and final commissioning. Projects included the 500kV Suncrest Substation and Sunrise Powerlink project, 500kV East County Substation and 138/69/12kV Boulevard East Substation project, Bay Boulevard 230/69kV Substation and decommissioning of the Southbay Power Plant and associated 138kV and 69kV switchyards, the Talega Substation 230kV +225/-110 MVar Synchronous Condenser Project, Capistrano 230kV and 138kV Gas Insulated Switchgear Project, the Miguel 500kV Synchronous Condenser, and San Luis Rey 230kV Gas Insulated Switchgear and 230kV Synchronous Condenser Project, and the interconnections of several 500kV and 230kV renewable energy projects to the SDG&E electric system.

**SUBSTATION CONSTRUCTION AND MAINTENANCE MANAGER,
KEARNY MAINTENANCE AND OPERATIONS DEPARTMENT
SDG&E | SAN DIEGO COUNTY, CA**

Managed a staff of 138 management and union employees and associated budgets to construct and maintain all of the transmission and distribution substation facilities on SDG&E's system to insure system reliability, system availability and compliance with all company and regulatory criteria.

**SYSTEM PROTECTION MAINTENANCE SUPERVISOR,
ELECTRIC CONSTRUCTION AND MAINTENANCE
SDG&E | SAN DIEGO COUNTY, CA**

Managed a staff of 20 management and union employees and associated budgets to install, test and maintain all of the substation and generation relay and control systems on SDG&E's system.

EMAIL

frank.johnson@NV5.com

EDUCATION

BS Electrical Engineering

EXPERIENCE

41 years

REGISTRATIONS

Professional Engineer -
CA #E10301

AFFILIATIONS

Member, IEEE

Member, IEEE Power
Engineering Society

Pacific Coast Electrical
Association

SDG&E's Representative
of the CAISO Maintenance
Coordination Committee

SDG&E's Representative on the
WECC Substation Workgroup

ROLAND ELVERA, PE
CONSTRUCTION MANAGER

Roland has more than 25 years of experience in construction management, project management and engineering. His diverse skills include project oversight, construction contract administration, monitoring and coordinating site activities, resolving field issues, minimizing change orders, reviewing contractor submittals, monitoring contractor schedules, and acting as liaison between contractors, designers, operations staff, and the public.

PROJECT EXPERIENCE

SDG&E SUBSTATION IMPROVEMENTS
SDG&E | SAN DIEGO, CA

Engineering and contract administration for substation erosion control and grading improvement projects including the Clairemont Substation grading improvements. Duties include interface and coordination with the civil/structural group, coordinating standby personnel, and scheduling geotechnical inspections. Work includes site over-excavation and recompact, a class II base topping, the construction of a 400ft long retaining wall and drainage swale around the site, and a storm water dissipater and outlet structure.

MIRA COSTA COLLEGE CONSTRUCTION MANAGEMENT
MIRA COSTA COLLEGE | OCEANSIDE, CA

Owners representative and construction management for the installation of a new fire line system. Provided project oversight and coordination between the college, the architect, and DSA inspection. Project consisted of upgrading and closing the loop on the fire suppression system to increase fire water pressure and efficiency. Work included installation of approximately 7,000 LF of 8-inch PVC piping, and the construction of a new concrete masonry building to house fire and irrigation pumps.

MISSION TRAILS CONSTRUCTION MANAGEMENT AND INSPECTION
SAN DIEGO COUNTY WATER AUTHORITY | SAN DIEGO, CA

Project Manager for construction management and Inspection for the San Diego County Water Authority Mission Trails Projects which includes the construction of a new pipeline tunnel which will help provide a safe, reliable water supply for San Diego County. The pipeline/tunnel involves underground construction of 4,825 feet of 96-inch pressure pipeline with an impermeable lining in two separate tunnels and demolition of the above ground vents and blow offs on the existing abandoned pipelines.

CITY OF SAN DIEGO CAPITAL IMPROVEMENTS PROGRAM
CITY OF SAN DIEGO | SAN DIEGO, CA

Resident engineer responsible for construction management and inspection services for water supply projects in the City of San Diego's \$773 million Capital Improvements Program. Construction projects include various pump plants, reservoirs and water pipelines. Responsibilities included contract administration, project oversight, reviewing the contractors' construction schedules, managing reviews of all contractor transmittals, successfully negotiating and preparing change orders and field orders, responding to contractors' technical requests, and resolution of field problems.

EMAIL

roland.elvera@NV5.com

EDUCATION

BS Civil Engineering

EXPERIENCE

25 years

REGISTRATIONS

Professional Engineer -
CA #C54936

PROJECT EXPERIENCE

For decades, NV5 has provided civil, structural and electrical engineering, planning, and design services to southern California utility clients. We have also complemented our traditional engineering services with program and construction management oversight services. This combination of professional services allows NV5 to support short- and long-term projects with the necessary expertise to achieve exceptional design, engineering, and construction results.

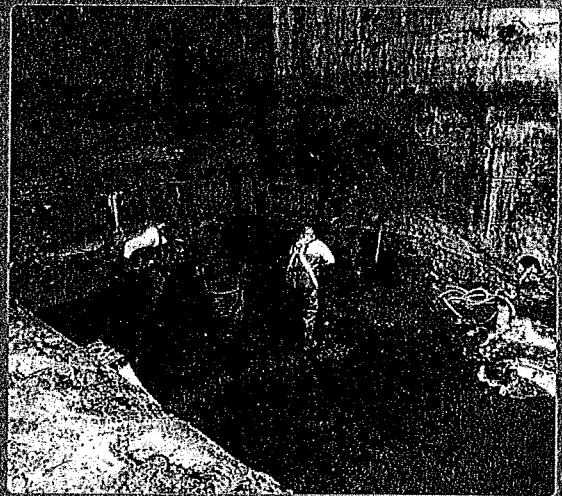
The following project examples will illustrate our team's ability to complete any RPU pole replacement, vault refurbishment/replacement or line reconductors project.

FINANCIAL CAPABILITY

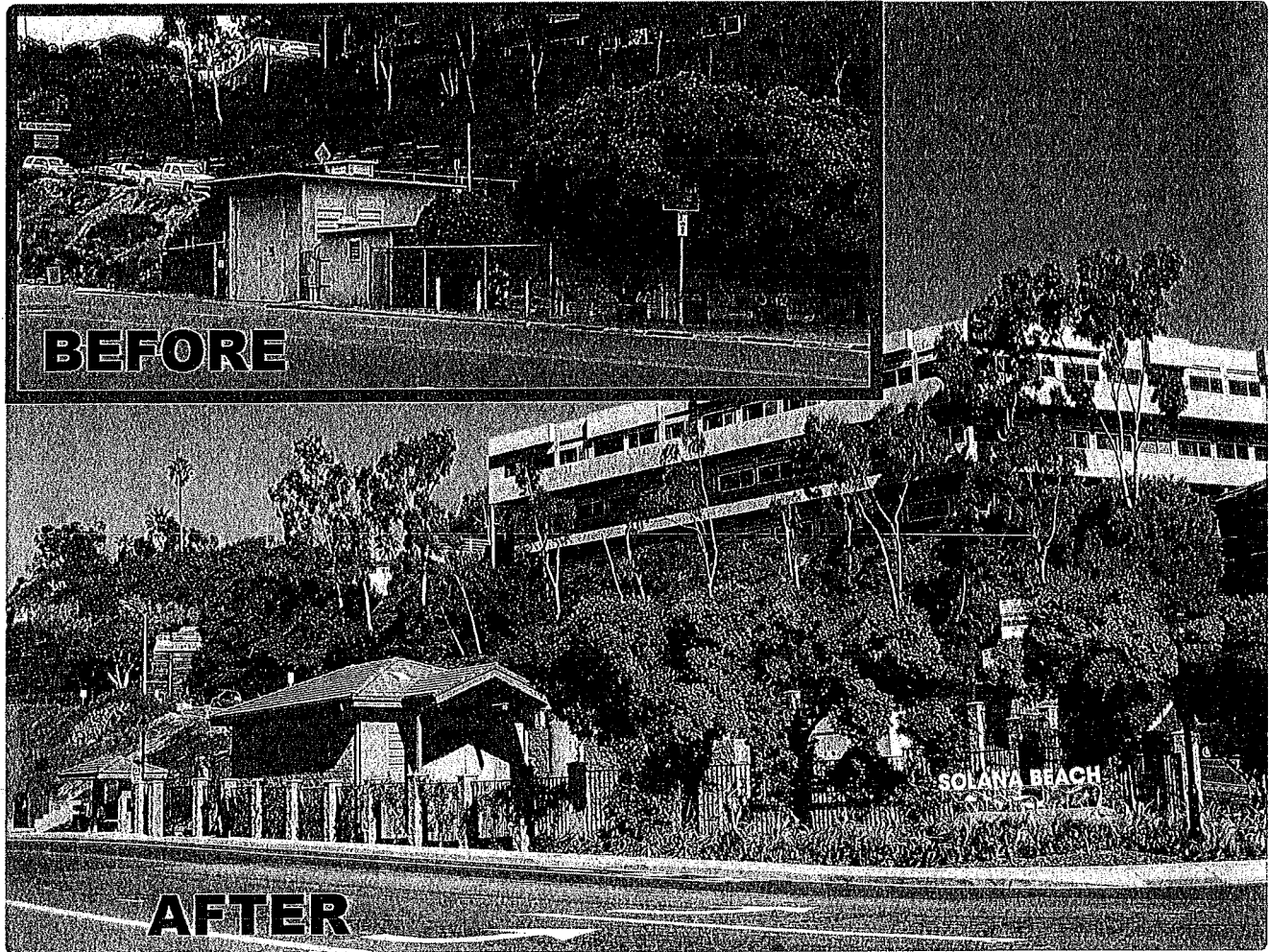
NV5 has never filed bankruptcy. We are a leading provider of professional engineering and consulting solutions with a 69-year history. Over the last several years, NV5 has experienced steady year-over-year growth. Our longevity and continued growth is a testament to our financial stability and the strength of our professional capabilities.

GLORIETTA BAY CONCRETE STRUCTURE REHABILITATION CITY OF CORONADO | CORONADO, CA

NV5 staff while employed at previous firm provided structural analysis of existing wet well structure and design of concrete repairs. Repairs included removing spalling concrete to sound concrete, sand blasting all concrete and epoxying new rebar and applying a shotcrete topping. Due to the corrosive and harsh environment, the concrete and reinforcement were significantly corroded and compromised. Where reinforcement had lost more than 50% of original cross sectional area, the installation of new rebar was necessary. This was accomplished by drilling and bonding new reinforcement. Once all repairs were completed, Contractor installed new epoxy coating over entire interior wet well surface.



EDEN GARDENS PUMP STATION AND VAULT REPAIR CITY OF SOLANA BEACH | SOLANA BEACH, CA



NV5 provided engineering and construction management services to the City of Solana Beach for the Eden Gardens Sewer Pump Station. The project included a 4-MGD sewer pump station and rehabilitation of the vault structure that was severely corroded. The precast vault had extensive cracking along the top 5' of the structure. NV5 designed a solution to cut off this top section, drill and bond new rebar to the existing structure, and then re-cast the remainder of this concrete structure to match original vault dimensions. Construction included a 30-foot deep, combination wet well/dry-pit concrete pump station with three, 60 HP, 1350 GPM dry-pit submersible pumps, including a stand-by diesel generator rated at 200kW. A 22' X 33' CMU building facility with integral instrumentation and controls was included to communicate with the San Elijo Joint Powers Authority primary programmable control system in Cardiff by the Sea.

Relevance

Structural Improvements

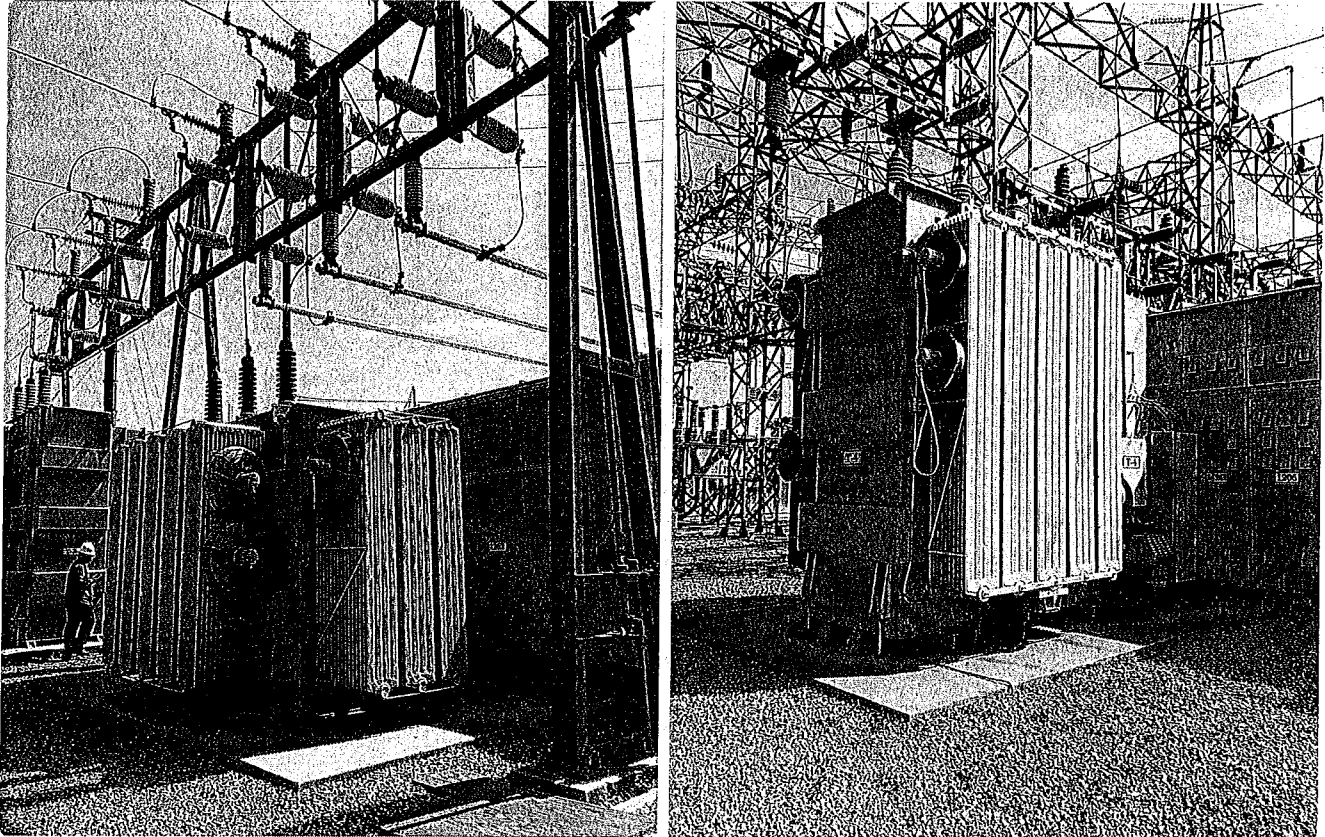
Client Reference

Jim Greenstein, PE
858.720.2470
jgreenstein@cosb.org
City of Solana Beach
635 S. Highway 101
Solana Beach, CA 92075

Project Duration

2015 - 2016

TRANSFORMER REPLACEMENTS AT FREEMAN AND MT. VIEW SUBSTATIONS CITY OF RIVERSIDE PUBLIC UTILITIES | RIVERSIDE, CA



NV5 is providing evaluation, design, and technical support services for two new high-voltage transformer replacements at two existing substations (Freeman and Mountain View). NV5 is utilizing in-house civil, electrical, and geotechnical engineering staff, along with survey support, to design two new transformer foundations and successfully integrate the new transformers into existing substation infrastructure. We have also contracted to provide Construction Management support at both substations.

Relevance

Pole Replacements
Line Reconductors

Client Reference

Fady Megala
951.826.5502
FMegala@riversideca.gov
City of Riverside Public Utilities
3900 Main Street
Riverside, CA 92522

Duration

2018 - Present

FIRE RISK MITIGATION (FIRM) PROGRAM SAN DIEGO GAS & ELECTRIC | SAN DIEGO COUNTY, CA



The FIRM program was created in order to provide safe and reliable energy. SDG&E is proactively addressing fire risk by "hardening" the critical service territory areas at most risk for wildfires. Starting in 2014, the FIRM project has focused on replacing older 4kV and 12kV overhead distribution line elements using new technology and stricter design standards. Approximately 3,600 distribution structures have already been replaced and 6,400 additional distribution structures are slated for replacement by the end of 2018. NV5 Survey crews support initial PLS-CADD design data acquisition via traditional ground survey, High Definition Scanning (HDS), and aerial LIDAR via UAV or Helicopter. NV5 Distribution Designers and Engineers utilize PLS-CADD 3D line design software to model existing and new overhead facilities to confirm structural integrity, conductor sagging, and appropriate phase and ground clearances. The NV5 design team then utilizes existing circuit information, job walk feedback, PLS-CADD model analysis, SDG&E Standards, and various SDG&E department responses (Fusing, SCADA, Land, etc.) in order to create an overhead design, underground design, SCADA plan, and Work Management Software labor and material entries to produce a construction-ready job package. NV5 Civil Engineering staff has provided additional engineering support including concrete foundation design, site grading, drainage, access roads, equipment pads, traffic control, and Storm Water Pollution Prevention Plans (SWPPP). NV5 is responsible for providing all permitting support on FIRM and providing Geotechnical Engineering support for soils reports, materials testing, and construction inspection. FIRM program benefits include: enhanced safety and reliability of the distribution system; improved electric system performance during extreme weather conditions; and reduced cost and environmental impacts for future maintenance activities.

Relevance

Pole Replacements
Structural Improvements

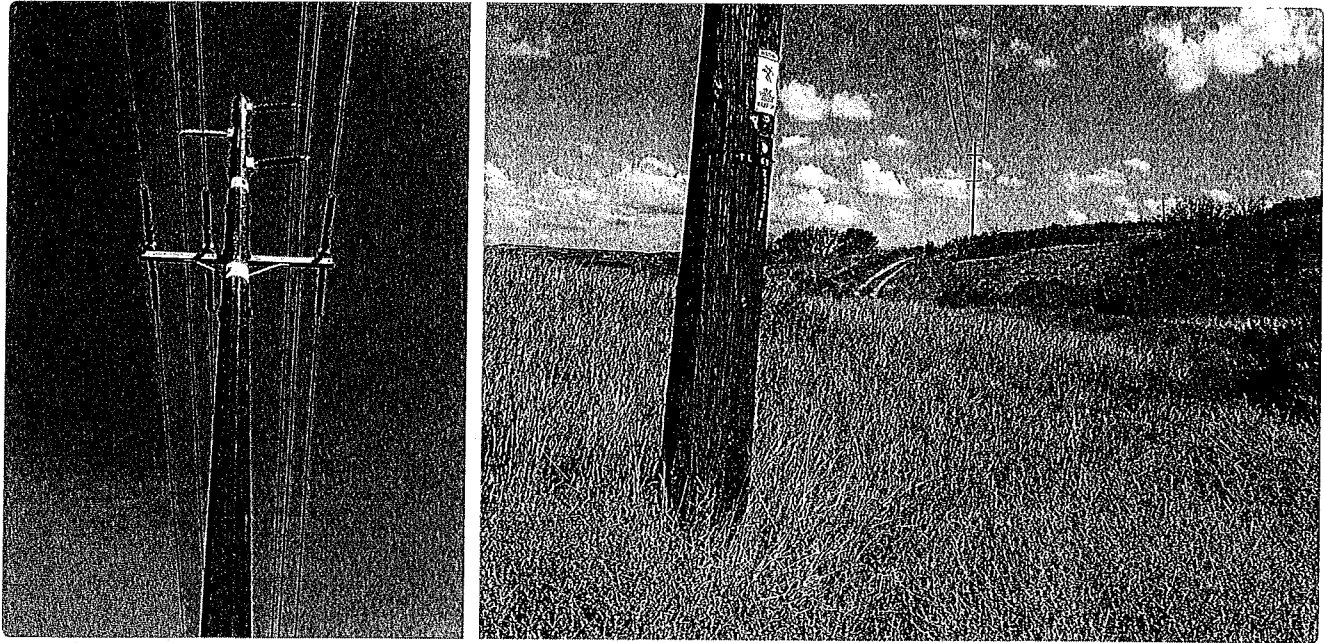
Client Reference

Kyle Marshall
503.816.4941
kmarshall@semprautilities.com
San Diego Gas & Electric
8316 Century Park Ct.
San Diego, CA 92123

Duration

2014 - Present

CAMP PENDLETON 69KV AND 12KV FIRE HARDENING SAN DIEGO GAS & ELECTRIC | OCEANSIDE, CA



The Marine Corps Base Camp Pendleton resides in a high-risk fire threat zone in San Diego County. The local utility, SDG&E, and the Marine Corps have partnered to harden the existing overhead 69kV transmission and 12kV distribution electric facilities throughout Camp Pendleton to minimize the fire threat to the base and local surroundings. NV5 is contracted to support the rebuild design of four 69kV electric transmission circuits, all with distribution and telecommunication underbuild facilities, that span across this large military base. This fire hardening program will reconduct over 20 miles of existing lines and replace over 300 existing wood poles with self-supporting steel structures that can withstand the fire and wind threats across this at-risk area. Several portions of the existing overhead facilities will also be removed and undergrounded after being deemed the preferred alternative by NV5's feasibility study.

NV5's scope included LiDAR acquisition and traditional ground survey. LiDAR survey, along with high resolution oblique structure photos and orthoimagery, was obtained for multiple tielines using UAV-mounted equipment. Existing rights-of-way were also surveyed and mapping drawings were created. All survey data was imported into PLS-CADD and used to create a 3D design model to complete the overhead design. For underground designs that only included cable pole installations, O-Calc Pro 3D single pole models were provided to confirm structural integrity and clearance compliance.

The rebuild of each transmission circuit had unique constraints including sensitive environmental and cultural areas, military land use restrictions, existing right-of-way and construction limitations. Designs were adapted to stay within existing easements and limit outages of the existing circuits during construction. Engineering solutions were implemented to avoid protected environmental and cultural areas and to expedite the permitting effort.

All underground designs will be produced as plan and profile drawings to design around potential underground conflicts before construction begins.

Relevance

Pole Replacements
Structural Improvements

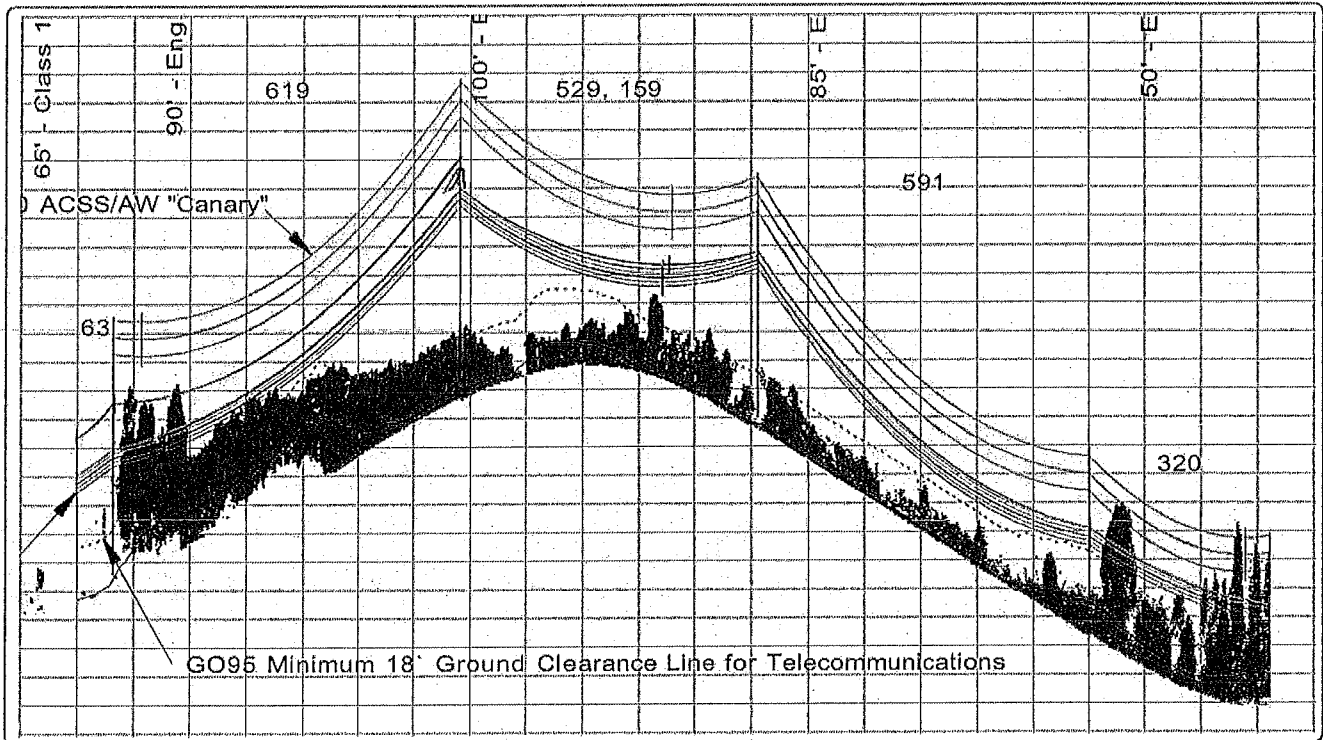
Client Reference

Oscar Kebritt
858.654.6464
okabritt@semprautilities.com
San Diego Gas & Electric
8316 Century Park Ct.
San Diego, CA 92123

Duration

2016 - Present

12KV OVERHEAD RELOCATION AT NAVAL BASE POINT LOMA NAVFAC SOUTHWEST | SAN DIEGO, CA



A portion of Naval Base Point Loma is being subjected to earth movement due to a slow moving landslide. A thorough safety plan previously identified the landslide area, the affected areas, and contingency plans in the event of a major disaster. Several 12kV underground electrical distribution circuits and telecommunication lines currently run through the landslide area. The design scope of this project focused on rerouting underground facilities via 3D pole modeling software PLS-CADD/PLS-POLE that could withstand the landslide forces, which included designing engineered steel poles with over 100-foot foundation depths that would be secured to the stable bedrock. NV5 also developed an above-ground fiberglass conduit system supported on steel T-frame structures that would help offer greater visibility of potential landslide damage versus hidden underground conduits. Detailed outage and conversion plans were required to enable the transition from existing electric facilities to the new hybrid overhead and underground electric system.

Relevance

Pole Replacements
Line Reconductors

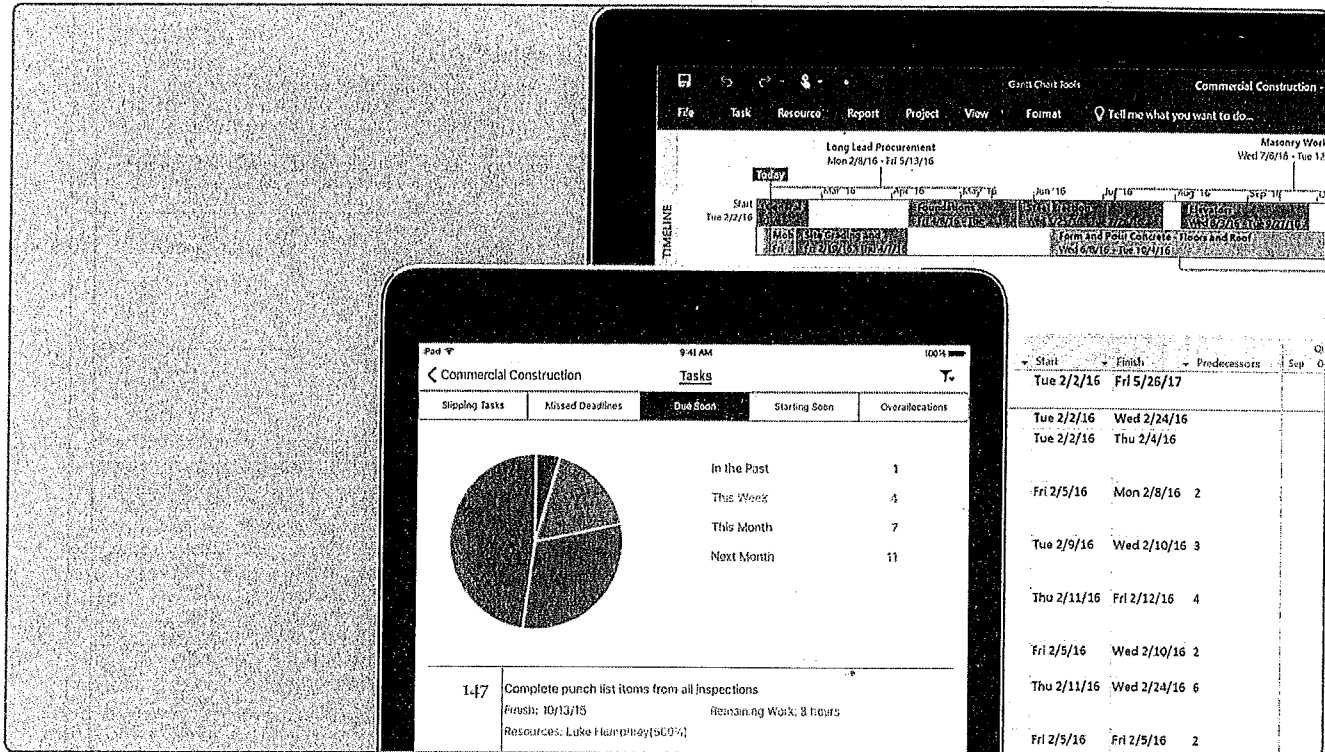
Client Reference

Debra Foster
619.524.8553
debra.l.foster@navy.mil
NAVFAC SW
1220 Pacific Hwy
San Diego, CA 92132

Duration

2016 - 2018

SCHEDULE DEVELOPMENT AND CONSULTATION SERVICES CITY OF RIVERSIDE PUBLIC UTILITIES | RIVERSIDE, CA



NV5 is providing schedule development and consultation services to help the electric operations group improve their tracking and scheduling efforts with capital and maintenance projects via Microsoft Project. NV5 first created templates in MS Project to track maintenance activities including tasks, budgets, resources, and risk. We worked with RPU staff to populate maintenance activities for the whole year, using historical data and process improvement requests to set up an ideal forecast. NV5 then created a similar set of templates for RPU's Capital Improvement Projects, populating large project details for the next year. NV5 created example reports for RPU based on user input, and will train RPU staff on how to generate reports and track various activities for all existing MS Project schedules.

Relevance

Pole Replacements (PM)
Structural Improvements (PM)
Line Reconductors (PM)

Client Reference

Fady Megala
951.826.5502
FMegala@riversideca.gov
City of Riverside Public Utilities
3900 Main Street
Riverside, CA 92522

Duration

2018 - Present

NV5 posses the necessary insurance in the coverage and amounts prescribed in the RFP Exhibit B and we have a current MSA with the City of Riverside RPU.



CERTIFICATE OF LIABILITY INSURANCE

DATE (MM/DD/YYYY)
6/29/2018

THIS CERTIFICATE IS ISSUED AS A MATTER OF INFORMATION ONLY AND CONFERS NO RIGHTS UPON THE CERTIFICATE HOLDER. THIS CERTIFICATE DOES NOT AFFIRMATIVELY OR NEGATIVELY AMEND, EXTEND OR ALTER THE COVERAGE AFFORDED BY THE POLICIES BELOW. THIS CERTIFICATE OF INSURANCE DOES NOT CONSTITUTE A CONTRACT BETWEEN THE ISSUING INSURER(S), AUTHORIZED REPRESENTATIVE OR PRODUCER, AND THE CERTIFICATE HOLDER.

IMPORTANT: If the certificate holder is an ADDITIONAL INSURED, the policy(ies) must be endorsed. If SUBROGATION IS WAIVED, subject to the terms and conditions of the policy, certain policies may require an endorsement. A statement on this certificate does not confer rights to the certificate holder in lieu of such endorsement(s).

PRODUCER
Cavignac & Associates
450 B Street, Suite 1800
San Diego CA 92101

CONTACT NAME: Certificate Department
PHONE (A/C, No, Ext): 619-744-0574 FAX (A/C, No): 619-234-8601
E-MAIL ADDRESS: certificates@cavignac.com

INSURER(S) AFFORDING COVERAGE NAIC #

INSURER A: Valley Forge Insurance Company 20508

INSURER B: Continental Casualty Co. 20443

INSURER C: Continental Insurance Company 35289

INSURER D: National Fire Ins. Hartford 20478

INSURER E: Berkley Insurance Company 32603

INSURER F:

INSURED NV5INC0-01
NV5, Inc.
15092 Avenue of Science, Suite 200
San Diego, CA 92128

COVERAGES

CERTIFICATE NUMBER: 2052134231

REVISION NUMBER:

THIS IS TO CERTIFY THAT THE POLICIES OF INSURANCE LISTED BELOW HAVE BEEN ISSUED TO THE INSURED NAMED ABOVE FOR THE POLICY PERIOD INDICATED. NOTWITHSTANDING ANY REQUIREMENT, TERM OR CONDITION OF ANY CONTRACT OR OTHER DOCUMENT WITH RESPECT TO WHICH THIS CERTIFICATE MAY BE ISSUED OR MAY PERTAIN, THE INSURANCE AFFORDED BY THE POLICIES DESCRIBED HEREIN IS SUBJECT TO ALL THE TERMS, EXCLUSIONS AND CONDITIONS OF SUCH POLICIES. LIMITS SHOWN MAY HAVE BEEN REDUCED BY PAID CLAIMS.

INSR LTR	TYPE OF INSURANCE	ADDL SUBR INSD WVD	POLICY NUMBER	POLICY EFF (MM/DD/YYYY)	POLICY EXP (MM/DD/YYYY)	LIMITS
A	<input checked="" type="checkbox"/> COMMERCIAL GENERAL LIABILITY <input type="checkbox"/> CLAIMS-MADE <input checked="" type="checkbox"/> OCCUR <input checked="" type="checkbox"/> Cross Liab/Sevln <input checked="" type="checkbox"/> \$0 Deductible GEN'L AGGREGATE LIMIT APPLIES PER: <input type="checkbox"/> POLICY <input checked="" type="checkbox"/> PRO-JECT <input type="checkbox"/> LOC OTHER:		6057040530	5/1/2018	5/1/2019	EACH OCCURRENCE \$ 1,000,000 DAMAGE TO RENTED PREMISES (Ea occurrence) \$ 1,000,000 MED EXP (Any one person) \$ 15,000 PERSONAL & ADV INJURY \$ 1,000,000 GENERAL AGGREGATE \$ 2,000,000 PRODUCTS - COMPIOP AGG \$ 2,000,000 Stop Gap Liability \$ 1,000,000
B	AUTOMOBILE LIABILITY <input checked="" type="checkbox"/> ANY AUTO <input type="checkbox"/> ALL OWNED AUTOS <input type="checkbox"/> HIRED AUTOS <input type="checkbox"/> SCHEDULED AUTOS <input type="checkbox"/> NON-OWNED AUTOS		6057040575	5/1/2018	5/1/2019	COMBINED SINGLE LIMIT (Ea accident) \$ 1,000,000 BODILY INJURY (Per person) \$ BODILY INJURY (Per accident) \$ PROPERTY DAMAGE (Per accident) \$ \$
C	<input checked="" type="checkbox"/> UMBRELLA LIAB <input checked="" type="checkbox"/> OCCUR <input type="checkbox"/> EXCESS LIAB <input type="checkbox"/> CLAIMS-MADE <input type="checkbox"/> DED <input checked="" type="checkbox"/> RETENTION \$ 0		6057187219	5/1/2018	5/1/2019	EACH OCCURRENCE \$ 20,000,000 AGGREGATE \$ 20,000,000 \$
D	WORKERS COMPENSATION AND EMPLOYERS' LIABILITY ANY PROPRIETOR/PARTNER/EXECUTIVE OFFICER/MEMBER EXCLUDED? (Mandatory in NH) If yes, describe under DESCRIPTION OF OPERATIONS below	Y/N N N/A	6057040558	5/1/2018	5/1/2019	<input checked="" type="checkbox"/> PER STATUTE <input type="checkbox"/> OTHER E.L. EACH ACCIDENT \$ 1,000,000 E.L. DISEASE - EA EMPLOYEE \$ 1,000,000 E.L. DISEASE - POLICY LIMIT \$ 1,000,000
E	Professional Liability		AEC902036802	5/1/2018	5/1/2019	Each Claim \$10,000,000 Aggregate \$20,000,000

DESCRIPTION OF OPERATIONS / LOCATIONS / VEHICLES (ACORD 101, Additional Remarks Schedule, may be attached if more space is required)

CERTIFICATE HOLDER

CANCELLATION

Specimen Certificate

SHOULD ANY OF THE ABOVE DESCRIBED POLICIES BE CANCELLED BEFORE THE EXPIRATION DATE THEREOF, NOTICE WILL BE DELIVERED IN ACCORDANCE WITH THE POLICY PROVISIONS.

AUTHORIZED REPRESENTATIVE

[Signature]

ACORD 25 (2014/01)

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NV5 has been established for many decades. The industry in which we provide professional services yields claims that arise from time to time. Claims that arise consist predominantly of general allegations related to professional errors or omissions for work performed under a contract or project. NV5 maintains adequate insurance coverage to protect against such claims. We believe there are no claims or lawsuits either threatened or pending that would impair its ability to perform on this request for proposal.

EXHIBIT "B"
COMPENSATION

TASK DESCRIPTION	NV5, Inc.		COMMENTS
	Man Hours	Costs	
Project 1 - Eighteen Pole Replacements			
Field Visit - Associate Engineer	36	\$4,860	Survey excluded based on RPU pre-proposal meeting discussions.
Design Drawing - Associate Engineer	288	\$38,880	
Wind Loading - Senior Engineer	72	\$10,800	Utilizing SPIDAcad, with survey & conductor data provided by RPU.
JPA Form-2 - Senior CADD Technician (Junior Designer)	72	\$7,560	
Material List - Assistant Engineer	72	\$8,424	
As-Built Support - Associate Engineer	54	\$7,290	
Project Management - Engineering Manager	36	\$6,120	Scope, scheduling, and deliverable coordination with RPU.
Project 2 - Vault Replacement / Refurbish			
Survey Field Support (Prevailing Wage) - 2-Person Crew	24	\$6,360	Survey included based on Q&A response from RPU, at all 3 locations.
Survey Base Map - Senior Survey Analyst	12	\$1,740	Survey included based on Q&A response from RPU, at all 3 locations.
QEW Field Support	24	\$3,480	For all 3 site visits.
QEW Traffic Control	8	\$900	Assumes only 1 structure requires extensive traffic control.
Field Visit - Senior Engineer	24	\$3,600	For all 3 site visits.
Structural Engineering & Design - Engineering Manager	0	\$0	Cost eliminated due to removal from scope for potential vault repair. Additional funds of \$6,800 will be required if 1 vault repair ends up being requested instead of 1 assumed vault replacement.
Structural Engineering & Design - Senior Engineer	80	\$12,000	Structural engineering support for only 1 vault replacement (#1648). Repair design is EXCLUDED.
Electrical Engineering & Design - Senior Engineer	240	\$36,000	Electrical engineering & design at all 3 locations.
Design Drawing & Coordination - Associate Engineer	120	\$16,200	Electrical engineering & design at all 3 locations.
Permit Exhibit Support - Associate Engineer	0	\$0	Permit fees and support are EXCLUDED.
Project Management - Engineering Manager	60	\$10,200	Scope, scheduling, and deliverable coordination with RPU.
Project 3 - Line Reconductor			
Field Visit - Associate Engineer	60	\$8,100	Survey excluded based on RPU pre-proposal meeting discussions.
Field Visit - Construction Manager	60	\$9,900	Survey excluded based on RPU pre-proposal meeting discussions.
Wind Loading - Senior Engineer	120	\$18,000	Assumes up to 30 poles will be evaluated, based on maps provided.
Design Drawing - Associate Engineer	480	\$64,800	
Material List - Assistant Engineer	120	\$14,040	
Permit Exhibit Support - Associate Engineer	0	\$0	Permit fees and support are EXCLUDED.
JPA Form-2 - Senior CADD Technician (Junior Designer)	90	\$9,450	
Board Documents Support - Engineering Manager	0	\$0	Board Documents support is EXCLUDED.
As-Built Support - Associate Engineer	60	\$8,100	
Inspection Services - Construction Manager	60	\$9,900	Assumes up to 30 pole replacements will be inspected (4 per day).
Scheduling/Reporting - Senior Analyst	0	\$0	This scope is eliminated, as we assumed this involved tracking construction schedule/progress.
Project Management - Engineering Manager	60	\$10,200	Scope, scheduling (NV5 tasks only), and deliverable coordination with RPU.
TOTAL COST	2,332	\$326,904	

\$377,954 NV5 original proposed cost
 \$51,050 10/02/2019 price reduction

EXHIBIT "C"
KEY PERSONNEL

TEAM STRUCTURE

Over the years, NV5 has achieved an enviable reputation for quality, integrity, and responsiveness to our clients. Because of this, we attract individuals who are excited by their work. Our commitment to quality is reflected in every job we do.

We have assembled a team of highly qualified professionals in all of the required disciplines for your project. Our team includes licensed civil and electrical engineers, certified project management professionals, and a diverse support staff. The organizational chart below shows our key personnel and their roles. All credentialed team members' licenses and registrations are current. Resumes for each team member are provided on the following pages.

LINES OF COMMUNICATION

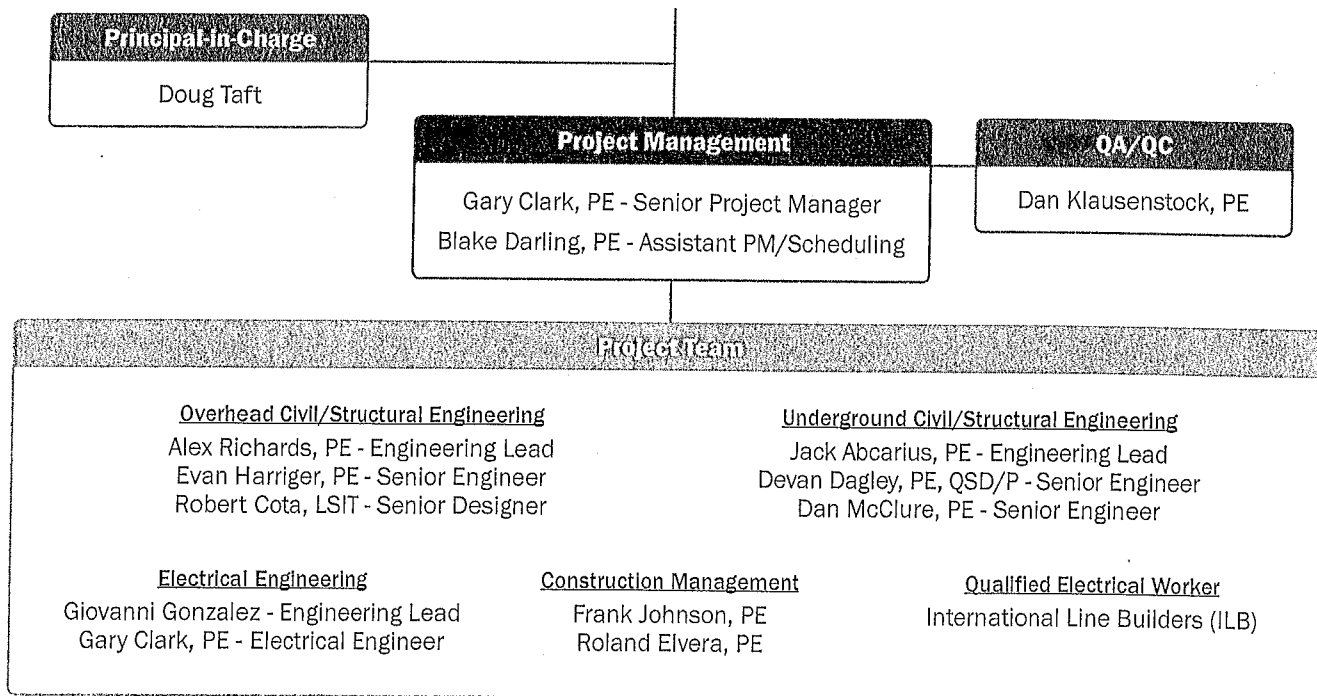
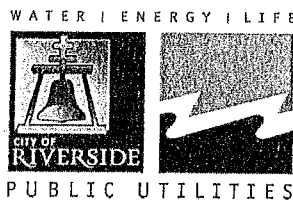
An essential element of NV5's project management approach is communication. We regularly use face-to-face meetings and phone calls to keep you updated. We also use email to quickly provide progress updates, communicate with the team, RPU staff, as well as share documents.

A successful project largely depends on the efficiency of its communication network—Communication starts on day one and continues for the life of the project.

SUBCONSULTANT

For over eight years, NV5 has partnered with International Line Builders because they are on the RPU approved Qualified Electrical Worker list, they are locally based in Riverside allowing for convenient scheduling, and they have decades of electrical substation, transmission, and distribution experience.

ORGANIZATIONAL CHART



DOUG TAFT
PRINCIPAL-IN-CHARGE**EMAIL | PHONE**

douglas.taft@NV5.com
858.385.2109

Doug has 27 years of project management, mechanical, civil, survey, drafting, design, and construction experience. His extensive experience allows him to offer expert analysis on electric transmission projects. Doug has led the design and project management of RPU, SCE, and SDG&E projects for over 17 years. He oversees NV5's power projects throughout the design and submittal process. Doug has managed projects for a variety of municipal agencies, other EPC contractors, and utility clients.

EDUCATION

AS Drafting Technology
AS Aviation Maintenance
Technology
Certificate Pro Engineering -
San Diego State University

PROJECT EXPERIENCE**UNDERGROUND DISTRIBUTION AMPACITY STUDY**
CITY OF RIVERSIDE PUBLIC UTILITIES | RIVERSIDE, CA

Principal-in-charge to provide recommended normal and emergency operating ampacity limits while confirming 4kV and 12kV underground getaway installation details at each RPU substation. This ampacity study consisted of 124 distribution circuit getaways at 11 RPU substations along with the dozens of underground structures and above-ground switchgear that were investigated at each substation to determine or confirm each circuit's underground path.

EXPERIENCE

27 years

ARTESIAN 230KV SUBSTATION EXPANSION
BARNARD CONSTRUCTION CO. (OWNER: SDG&E) | SAN DIEGO, CA

Principal-in-charge on this large EPC project to rebuild and expand the SDG&E Artesian Substation near 4S Ranch in San Diego County. The project will double the size of the existing substation by first rebuilding the 69/12kV substation to a better and larger facility East of the existing pad. The new 69kV yard will consist of an ultimate 6 breaker-and-half bay designed with the capacity for six lines and four 69/12kV power transformers. Once the new 69/12kV substation is energized a new 230kV yard will be built in place of the old substation intercepting an existing nearby 230kV line. The 230kV yard will consist of two breaker-and-half bays with an ultimate build out of two lines and two 230/69kV transformers.

LOS COCHES SUBSTATION (OVERHEAD AND UNDERGROUND TRANSMISSION AND DISTRIBUTION DESIGN TASKS)
SDG&E | SAN DIEGO COUNTY, CA

Principal-in-charge. NV5 has been a consultant assisting SDG&E with expansion of its 69kV Los Coches Substation into an adjacent switchyard for 138kV transmission lines. NV5 designed a PLS-CADD overhead temporary relocation and transition design for one 69kV circuit and one 138kV circuit which were in the way of a hillside demolition plan. NV5 also assisted with routing and trench specifications of multiple 12kV and 69kV circuits being undergrounded along a new access road designed by NV5. We properly modeled via CYMCAP ampacity studies and cable type comparisons. We also provided PLS-CADD design support for modeling new cable pole locations and potential overhead conflicts.

GARY CLARK, PE SENIOR PROJECT MANAGER

Gary has extensive project management experience in both the electrical contracting and electric utility sectors and has worked on a wide range of electrical engineering projects as a consultant, contractor, and electric utility engineer across the country. He has over 14 years of electrical engineering experience ranging from switchgear design and controller programming to electrical infrastructure including streetlighting, traffic signals, distribution, transmission, telecommunications, and substations. Electrical infrastructure engineering experience includes the design, analysis, simulation, maintenance, repair, and improvement of electric utility systems. Gary utilizes industry-leading software tools like PLS-CADD and CYME/CYMCAP to provide the highest levels of accuracy and thoroughness for both overhead and underground electric designs. Gary has served as both the engineer on record and project manager for many capital improvement projects collaborating with public works and electric utilities.

PROJECT EXPERIENCE

FIRE RISK MITIGATION (FIRM) PROGRAM SDG&E | SAN DIEGO COUNTY, CA

Lead project manager overseeing or coordinating all design, survey, and construction support tasks. The project has focused on replacing older 4kV and 12kV overhead distribution line elements using new technology and stricter design standards. NV5 survey crews support initial PLS-CADD design data acquisition via traditional ground survey, High Definition Scanning (HDS), and aerial LiDAR via UAV or Helicopter. NV5 distribution designers and engineers utilize PLS-CADD 3D line design software to model existing and new overhead facilities to confirm structural integrity, conductor sagging, and appropriate phase and ground clearances. The NV5 design team utilizes existing circuit information, job-walk feedback, PLS-CADD model analysis, and SDG&E Standards and department responses to create overhead and underground designs, SCADA plan, and Work Management Software labor and material entries to produce a construction-ready job package.

UNDERGROUND DISTRIBUTION AMPACITY STUDY CITY OF RIVERSIDE PUBLIC UTILITIES | RIVERSIDE, CA

Senior electric utility engineer and project manager in charge to provide recommended normal and emergency operating ampacity limits while confirming 4kV and 12kV underground getaway installation details at each RPU substation. This ampacity study consisted of 124 distribution circuit getaways at 11 RPU substations along with the dozens of underground structures and above-ground switchgear that were investigated at each substation to determine or confirm each circuit's underground path.

EMAIL | PHONE

gary.clark@NV5.com
909.544.2492

EDUCATION

MS Engineering Management
BS Electrical and
Computer Engineering

EXPERIENCE

14 years

REGISTRATIONS/CERTIFICATIONS

Professional Engineer -
CA #E19910

Other States - AZ, CO, NM,
NV, UT, OR, and WA

Certificate Construction
Safety and Health - OSHA

Certificate Disaster Management,
Power Systems - Texas A&M

Certificate Overhead Distribution
Systems - APPA Academy

Certificate Underground
Distribution Systems
- APPA Academy

Certificate NESC Overhead
Strengths and Loadings - IEEE

Certificate Power Cable Ratings
and Soil Considerations - PDC

PROFESSIONAL AFFILIATIONS

Senior Member, IEEE

Senior Member, IEEE Insulated
Conductors Committee

Standards Chair, IEEE Insulated
Conductors Committee

GARY CLARK, PE (CONT'D)
SENIOR PROJECT MANAGER**TRANSFORMER REPLACEMENTS AT FREEMAN
AND MT. VIEW SUBSTATIONS**
CITY OF RIVERSIDE PUBLIC UTILITIES |
RIVERSIDE, CA

NV5 is providing evaluation, design, and technical support services for two new high-voltage transformer replacements at two existing substations (Freeman and Mountain View). NV5 utilized in-house Civil, Electrical, and Geotechnical engineering staff, along with Survey support, to design two new transformer foundations and successfully integrate the new transformers into existing substation infrastructure. We also contracted to provide Construction Management support at both substations.

MIRA SORRENTO SUBSTATION
SDG&E | SAN DIEGO, CA

NV5 was the lead consultant for site civil design and associated T&D undergrounding for this new 69kV substation. Gary assisted with designing an overhead and underground SCADA fiber expansion to connect Mira Sorrento Substations to the existing SDG&E substation fiber optic network. This required a creative PLS-CADD design in order to bring fiber in from the opposite side of the adjacent large transmission corridor. Gary utilized NV5's new underground 69kV design in order to bring the final communication connection into the new substation via an existing cable pole and our new getaway underground route. Gary also provided ampacity study design support for both the underground 69kV and 12kV getaway trenches to assure that future loading needs will be sufficiently planned for.

**LOS COCHES SUBSTATION (OVERHEAD
AND UNDERGROUND TRANSMISSION AND
DISTRIBUTION DESIGN TASKS)****SDG&E | SAN DIEGO COUNTY, CA**

NV5 has been a consultant assisting SDG&E with expansion of its 69kV Los Coches Substation into an adjacent switchyard for 138kV transmission lines. For this project Gary first designed a PLS-CADD overhead temporary relocation and transition design for one 69kV circuit and one 138kV circuit which were in the way of a hillside demolition plan. Gary also assisted with routing and trench specifications of multiple 12kV and 69kV circuits being undergrounded along a new access road designed by NV5. Gary worked closely with SDG&E planners and engineers to ensure present and future loading needs were considered and properly modeled via CYMCAP ampacity studies and cable type comparisons. Gary also provided PLS-CADD design support for modeling new cable pole locations and potential overhead conflicts.

SUNSET AVENUE GRADE SEPARATION PROJECT
CITY OF BANNING | BANNING, CA

Senior electric utility engineer and project manager in charge of electric utility's scope of work for the federal and county funded capital improvement project at one of Banning's busiest railroad crossings. Electric Utility improvements included undergrounding 12kV distribution network, undergrounding 69kV transmission network, undergrounding existing distribution SCADA network, coordinating joint trenching and pole removals with other affected utilities, establishing new easements as needed for revised electric system design, and coordinating temporary pole route to accommodate time-sensitive construction needs of railroad and street improvement contractors.

BLAKE DARLING, PE
ASSISTANT PROJECT MANAGER/SCHEDULING

EMAIL | PHONE

blake.darling@NV5.com
 858.385.2236

EDUCATION

BS Mechanical Engineering

EXPERIENCE

9 years

REGISTRATIONS

Professional Engineer -
 CA #M35131

Blake has 9 years of gas and electric utility engineering and project management experience. He brings a passion for the work he does and drives safety initiatives both in the office and on the jobsite. Blake's attention to quality control measures and meeting the client's goals through careful process controls has allowed him to successfully manage project of all sizes through to successful completion. Recent examples of Blake's project management experience include the retrofit of approximately 100 miles of transmission pipelines to accommodate internal inspection technology and the design and construction of 311 transmission compliance pole replacements.

PROJECT EXPERIENCE

TRANSMISSION COMPLIANCE PROGRAM

SDG&E | SAN DIEGO, CA

Developed a detailed engineering program flow and quality control measures to address the rapidly expanding transmission compliance replacement program at SDG&E. Blake implemented a 4-stage engineering phase/gate system to provide timely updates and traceable milestones for tracking engineering, permitting, and procurement progress for 311 individual compliance pole replacement jobs. Creation of this program flow required close collaboration with many different internal and external stakeholders, all of which had very specific requirements to be addressed.

PSEP PROGRAM

SDG&E | SAN DIEGO, CA

Provided engineering and program scope for the SDG&E PSEP program during the CPUC Memorandum Account development for what later became the PSEP program. Served as the distribution engineering advisor through the first phase of PSEP implementation, which included the replacement of pipelines 49-32, 49-26, and 49-16, the removal of pipeline 49-22, and the engineering design for all remaining DOT-transmission pipelines in SDG&E's territory.

DIRECT-EMBEDDED STEEL POLE CORROSION RISK EVALUATION

SDG&E | SAN DIEGO, CA

SDG&E adopted the widespread practice of installing direct-embedded steel transmission poles in 2007 and growing concern about sub-grade corrosion prompted the utility to commission a study of above and below-grade corrosion risks in San Diego County. Blake acted as project manager for the characterization, sampling, and assessment of SDG&E's existing direct-embedded steel transmission poles. The program required hiring a corrosion specialist to characterize the atmospheric and soil corrosivity risks in the SDG&E territory and selection of key structures to sample for corrosion damage. With the system characterized and field-verified, a larger sample of at-risk structures were selected to evaluate for corrosion damage based on location relative to identified corrosion hot spots. Engineering and construction standard practices were developed to mitigate corrosion risks on infrastructure installed in the future.

DAN KLAUSENSTOCK, PE
QUALITY ASSURANCE/QUALITY CONTROL

Dan has over 34 years of experience with 28 of those years in the electric utility industry at San Diego Gas & Electric developing a multitude of experience in the generation, transmission, and distribution of electric power. Dan's experience at SDG&E was in the implementation of smart grid projects including switch automation and data acquisition systems. Prior to smart grid, Dan led a team of engineers and designers at SDG&E in the Transmission Engineering and Design Group for 10 years. This group developed standards, performed electrical component plant on site audits and approvals, managed and engineered large capital transmission line projects, 69kV through 230kV, both overhead and underground, from concept through construction and commissioning.

PROJECT EXPERIENCE**LAGUNA NIGUEL RELIABILITY ENHANCEMENT**
CITY OF LAGUNA NIGUEL | LAGUNA NIGUEL, CA

Project manager responsible for the engineering and design of the Laguna Niguel Reliability Enhancement Project. This project was worked in collaboration with the City of Laguna Niguel to eliminate the risk resulting from erosion and slope failure affecting two 138kV transmission pole lines located in a steep unstable canyon. The solution to place underground a total of 4 miles of 138 kV pole line is currently in construction and will ultimately eliminate the risk of fire and an extended citywide blackout.

230KV SUNRISE POWER LINK
SDG&E | SAN DIEGO COUNTY, CA

Supported the 230kV underground portion of the Sunrise Project. Reviewed plan and profiles and design. Worked and advised the UG Project Manager as needed. Provided field support during construction and testing.

SYCAMORE CANYON TO PENASQUITOS (SX-PQ) 230KV
COASTAL POWER LINK**SDG&E | SAN DIEGO COUNTY, CA**

Engineering, design, Public Utility Commission permitting, and construction support of a 12 mile, 230 kV, underground transmission line through urban and commercial areas of San Diego to provide a power link allowing bulk power to flow from the burgeoning supply of renewable energy being generated in Desert Areas east of San Diego to the Coastal Area. Required design of new systems to mitigate magnetic field effects including shielding and grounding as well as the design and implementation of an induction data acquisition and monitoring system. Numerous plant and product acceptance tests were performed including cable, electrical components, and magnetic shielding components.

EMAIL

dan.klausenstock@NV5.com

EDUCATION

BS Mechanical Engineering,
Emphasis in Electric
and Power Systems

EXPERIENCE

34 years

REGISTRATIONS/CERTIFICATIONS

Professional Engineer -
CA #M30805

ALEX RICHARDS, PE
OVERHEAD CIVIL/STRUCTURAL LEAD

Alex has worked on a wide variety of overhead transmission, distribution, and telecommunication projects. As a consultant with 12 years of experience, he has design experience ranging from 4kV to 500kV on jobs from preliminary design in support of permitting to EPC construction support. He is well versed in overhead line design, steel pole load calculation/design and foundation design, and has served as engineer of record on many projects. Alex has extensive knowledge using the industry standard software PLS-CADD, PLS-Pole, PLS-Tower, and MFAD. He has developed and taught training courses for transmission line design and software programs for utilities around the country. Alex has worked with the National Electric Safety Code, General Order 95, and the Canadian Electrical Code. Alex is also the secretary of the ASCE Task Committee for the Aesthetic Design of Transmission Line Structures.

EMAIL

alex.richards@NV5.com

EDUCATION

BS Civil Engineering

EXPERIENCE

12 years

REGISTRATIONS

Professional Engineer -
CA #C79466

Other States - CO, IL, and MO

PROJECT EXPERIENCE

ELECTRIC TRANSMISSION COMPLIANCE PROGRAM

SDG&E | SAN DIEGO COUNTY, CA

Developed and oversaw a team of 15 engineers and drafters that supported a utility's transmission maintenance and compliance program consisting of hundreds of pole replacements each year, marker ball additions, and complete assessments of 138kV and 69kV pole lines. Developed procedures and tools for managing projects and schedules and oversaw the development of a robust QA/QC program.

CLEVELAND NATIONAL FOREST POWER LINE REPLACEMENT

SDG&E | SAN DIEGO COUNTY, CA

Oversaw a team of six engineers and drafters to perform the design of three 69kV transmission line rebuilds. Projects consisted of over 30 miles of single circuit 69kV with distribution and communication underbuild through mountainous terrain. Projects included the design of over 300 engineered steel poles on micropile foundations.

SOUTHERN CALIFORNIA REBUILD

SDG&E | SAN DIEGO COUNTY, CA

Oversaw the design of five 69kV and 138kV wood-to-steel rebuild projects ranging from 2 to 15 miles in length. All projects included 12kV and communication underbuild. In addition to overseeing design and engineering, coordinated environmental and permitting efforts.

TELECOMMUNICATION DESIGN

NORTHWESTERN ENERGY, XCEL ENERGY, SOUTHERN CALIFORNIA EDISON, SDG&E | WESTERN UNITED STATES

Designed over 300 miles of telecommunication underbuild on overhead transmission and distribution systems across the western United States. Utilized various industry software to facilitate designs and coordinated construction efforts with construction crews in multiple states through many phase of construction.

EVAN HARRIGER, PE, LEED GA
OVERHEAD CIVIL/STRUCTURAL - SENIOR ENGINEER

Evan has worked on a wide variety of overhead transmission projects as a consultant in San Diego. He has over 10 years of design experience ranging from 12kV to 500kV on jobs from preliminary design in support of permitting to EPC construction support. He is well versed in overhead line design, steel pole load calculation/design and foundation design and has served as engineer of record on multiple projects. Evan has extensive knowledge using the industry standard software PLS-CADD, PLS-Pole, PLS-Tower, MFAD, and has led training sessions for these programs.

PROJECT EXPERIENCE

CAMP PENDLETON FIRE HARDENING
SDG&E | OCEANSIDE, CA

Engineering manager for four 69kV overhead transmission line rebuilds, ranging from 5-8 miles in length per line, as part of a wood-to-steel fire hardening program. Technical responsibilities for each project include PLS-CADD oversight, steel pole design, standard development, and QA/QC of all design documents and engineering drawings. Additionally has taken on project management duties including scope and fee development, monthly invoicing, and is serving as the main client point of contact.

CLEVELAND NATIONAL FOREST (CNF) POWER LINE REPLACEMENT
SDG&E | SAN DIEGO COUNTY, CA

Lead design engineer for the wood-to-steel rebuilt of TL682. The project consisted of over 20+ miles of single circuit 69kV with distribution and communication underbuild through extremely mountainous terrain. Oversaw the work of four junior engineers and responsible for project scheduling, design criteria development, PLS-CADD modeling, design of over 140 engineered steel poles, and final QA/QC of design submittals. Acted as the main point of contact, effectively communicating with multiple subconsultants, clients, and public agencies.

ELECTRIC TRANSMISSION COMPLIANCE PROGRAM
SDG&E | SAN DIEGO COUNTY, CA

Lead engineer for a compliance program that consisted of multiple single pole replacements, marker ball additions, and complete tieline structure analysis. Managed project deadlines and allocated work to the project team in order to maintain the program schedule. Responsible for the overall quality of designs and completed in-person design reviews for each project with the client, final QA/QC, and was ultimately engineer of record on multiple jobs. Additionally trained junior engineers on the technical details and PLS-CADD design software in order to grow the project team.

EMAIL

evan.harriger@NV5.com

EDUCATION

MBA Finance Concentration
 MS Structural Engineering
 BS Structural Engineering

EXPERIENCE

10 years

REGISTRATIONS/CERTIFICATIONS

Professional Engineer -
 CA #C82096
 Other States - WA
 LEED Green Associate

ROBERT (ROB) COTA, LSIT **OVERHEAD CIVIL/STRUCTURAL - SENIOR DESIGNER**

Rob has a wide range of experience including management of LIDAR production - post-acquisition LIDAR processing, LIDAR point classification, LIDAR technician training, product development and R&D for a large LIDAR and photogrammetry company on the California Central Coast from 2006 to 2014. He worked with over 30 major utilities across the United States and Canada to develop NERC compliance scope of work and provided Aerial LIDAR, Orthographic & Oblique photography services.

Rob augmented the engineering staff at El Paso Electric from 2013 to 2014 as a PLS-CADD engineering & LIDAR specialist consultant. He worked directly with El Paso Electric transmission engineers to develop in-house LIDAR quality control and as-built existing 69kV, 115kV, 230kV & 500kV transmission lines.

Rob's experience at NV5 began in 2014 as a PLS-CADD overhead distribution and transmission engineer designer. He assisted in the design & engineering of overhead rebuild projects ranging from substation getaways to wood-to-steel fire hardening projects.

PROJECT EXPERIENCE

FIRE RISK MITIGATION (FIRM) PROGRAM **SDG&E | SAN DIEGO, CA**

Project manager for the FIRM program. The project is focused on the replacement of aging 4kV and 12kV overhead distribution wood poles and conductors with new steel poles and high strength conductors. NV5's team of distribution designers and engineers utilize PLS-CADD 3D line design software to model existing and new overhead facilities to confirm structural integrity, conductor sagging, and appropriate phase and ground clearances. Responsibilities include the management of engineering calculations, construction plans and standards compliance, quality control of design and engineering documents, as well as construction support and post-construction as-built reconciliation.

CAMP PENDLETON FIRE HARDENING **SDG&E | OCEANSIDE, CA**

Lead PLS-CADD distribution underbuild designer. This project consisted of four 69kV overhead transmission line rebuilds, ranging from 5-8 miles in length apiece, as part of a wood-to-steel fire hardening program. Technical responsibilities as responsible engineer designer for these projects include PLS-CADD modeling, standard development and QA/QC of design documents and engineering drawings.

C354 RECONDUCTOR PROJECT **SDG&E | SAN DIEGO, CA**

As part of a 3-year on-call services contract with San Diego Gas & Electric, NV5 is providing comprehensive design and drafting services on a variety of distribution projects throughout San Diego County. For this project, NV5 was tasked with providing design of the reconductor to rebuild the pole line to accommodate a future circuit. Deliverables included sketch, details, operating maps, TCPs, and the construction package. Served as the PLS-CADD technician on this project, provided engineering calculations and 3D modeling of the existing and proposed infrastructure. Pole loading analysis was performed to ensure existing poles met current standards and new poles exceeded current SDG&E & GO95 standards.

EMAIL

robert.cota@NV5.com

EXPERIENCE

12 years

REGISTRATIONS

Land Surveyor in Training -
CA #8097

AFFILIATIONS

California Land Surveyors
Association (CLSA), Member

Urban and Regional Information
Systems Association
(URISA), Member

JACK ABCARIUS, PE **UNDERGROUND CIVIL/STRUCTURAL ENGINEERING - LEAD**

Jack is the structures and transportation group manager for NV5's San Diego office. He has provided civil and structural engineering services in California since 1983. Jack spent 10 years working in Caltrans' Office of Structures Design and he has extensive experience performing QA/QC on structural projects. His technical experience covers all aspects of the field from planning to final design, to construction inspection and support services. Jack is highly experienced in leading multi-disciplinary design teams on engineering projects.

PROJECT EXPERIENCE

POSEIDON DESALINATION PLANT **SDG&E | SAN DIEGO, CA**

In order to provide power to the Poseidon Desalination Plant, NV5's structures group designed an intricate support system consisting of structural steel frames, reinforced concrete wall and beams to support a total of 12-6" and 4-4" conduits. Jack was responsible for reviewing and QA/QC of the design and details to ensure constructability and structural adequacy. The project was completed successfully and on time.

30TH STREET BRIDGE OVERCROSSING - TRANSMISSION LINES **SDG&E | SAN DIEGO, CA**

Project manager responsible for the preparation of plans, specifications, and estimate associated with the structural modifications of an existing bridge over State Route 94 to accommodate SDG&E's Transmission Undergrounding lines. Our designs required extensive coordination with Caltrans Structures staff as well as the District Permit Engineer for final approval. Our familiarity with Caltrans Policies and Procedures ensured successful completion of this one-of-a-kind, award-winning project.

30TH STREET BRIDGE OVERCROSSING - DISTRIBUTION LINES **SDG&E | SAN DIEGO, CA**

Upon our success with the Transmission Undergrounding project, SDG&E came back for help on undergrounding their distribution lines along this same stretch of roadway. To try and go back through the cells of the box girder bridge would have been a difficult task at best to get through Caltrans. These lines carry a much smaller voltage than Transmission Lines, so we recommended going through the bridge sidewalks which required the removal and reconstruction of the sidewalks and old outdated railings. This win-win approach facilitated our process and approval through Caltrans.

ISLAND AVENUE BRIDGE OVERCROSSING **SDG&E | SAN DIEGO, CA**

NV5 prepared plans, specifications, and estimates for undergrounding transmission lines through Island Avenue Bridge over I-5. Full coordination and oversight was required by Caltrans.

EMAIL

jack.abcarius@NV5.com

EDUCATION

BS Civil Engineering

EXPERIENCE

35 years

REGISTRATIONS/CERTIFICATIONS

Professional Engineer -
CA #C40459

Other States - FL

Certificate ASCE Commendation
as Outstanding Civil Engineering
Student - California State
University Sacramento

Certificate Completion for
Module I Value Analysis/
Value Engineering

DEVAN DAGLEY, PE, QSD/P
UNDERGROUND CIVIL/STRUCTURAL - SENIOR ENGINEER

Devan is a senior engineer in NV5's structural group where he brings more than 11 years of project experience. He is well-versed in providing structural construction management, performing inspections (both during and post-construction) and structural calculations of new and existing buildings to determine code-prescribed forces or as-built capacity. He has worked extensively on projects conforming to CBC, IBC, and Caltrans/AASHTO Bridge Design Codes, among others.

PROJECT EXPERIENCE

GLORIETTA BAY CONCRETE STRUCTURE REHABILITATION
CITY OF CORONADO | CORONADO, CA

Provided structural analysis of existing wet well structure and design of concrete repairs. Repairs included removing spalling concrete to sound concrete, sand blasting all concrete and epoxying new rebar and applying a shotcrete topping. Due to the corrosive and harsh environment, the concrete and reinforcement were significantly corroded and compromised. Where reinforcement had lost more than 50% of original cross sectional area, the installation of new rebar was necessary. This was accomplished by drilling and bonding new reinforcement. Once all repairs were completed, Contractor installed new epoxy coating over entire interior wet well surface.

LOS COCHES SUBSTATION IMPROVEMENT
SDG&E | LAKESIDE, CA

Performed structural design on various elements, including CMU site walls, concrete sediment basin, concrete retaining walls, CMU retaining walls, grade beams, in addition to performing periodic site inspections, reviewing contractor submittals, and performing internal QA/QC of drawings.

ENERGIA SIERRA JUAREZ (TIE LINE TO ECO SUBSTATION)
SDG&E | JACUMBA, CA

Structural EOR for the design of deep foundations for steel lattice transmission towers. Performed structural calculations using software and traditional methods. Interfaced with Design Engineers in Mexico in order to validate the tower design. Worked closely with geotechnical engineers in order to ensure compliance with geotechnical requirements during design of foundations.

ISLAND AVENUE SIDEWALK REPAIR
SDG&E | SAN DIEGO, CA

Performed full time site inspections and acted as Owner's Structural Representative. Responsible for maintaining daily work logs, reviewing submittals, coordinating/interfacing with Caltrans Resident Engineers to verify compliance with Caltrans standards. Observed demolition activities, installation of utility conduits within sidewalk, placement of concrete (including testing and sampling of concrete) at sidewalk both on and off bridge structure. Interfaced with SDG&E contractor, Caltrans and City of San Diego representatives. Utilities were both electrical distribution and transmission. Island Avenue bridge crossed over Interstate 5, meaning all work was performed within the Caltrans right-of-way.

EMAIL

devan.dagley@NV5.com

EDUCATION

MS Civil Engineering
 BS Structural Engineering

EXPERIENCE

11 years

REGISTRATIONS/CERTIFICATIONS

Professional Engineer -
 CA #C78462

Other States - AZ, UT, and TX

Qualified SWPPP Developer/
 Practitioner (QSD/P) - CA #23714

Certified Cal-OES SAP Disaster
 Service Worker - #81164

DANIEL (DAN) McCLURE, PE
UNDERGROUND CIVIL/STRUCTURAL - SENIOR ENGINEER

Dan is an accomplished professional engineer with more than 18 years of expertise in civil, structural, and transmission line engineering. Dan has extensive experience with high-voltage transmission power delivery projects, construction, and field engineering, as well as engineering for commercial, industrial, and education clients.

PROJECT EXPERIENCE

SAN LUIS REY SUBSTATION
SDG&E | SAN LUIS REY, CA

Senior transmission line engineer responsible for the design of two 230kV overhead to underground transition steel monopole structures. Developed load trees using a 3D PLS-CADD and PLS-POLE model with utilizing hand calculations ensuring conformance with G.O.-95 and client-specific requirements.

MITIGATION OF LANDSLIDE DAMAGE TO DISTRIBUTION SYSTEM
NAVAL BASE POINT LOMA | POINT LOMA, CA

Senior civil-structural engineer responsible for the design of deep drilled pier foundations supporting the overhead distribution structures as a part of repair to the overhead distribution system at the Point Loma Naval Base. The major project challenge was to develop a design to develop long-term resistance to landslide forces on the side of a hill. The design utilized a comprehensive geotechnical investigation and custom LPILE "p-y" curves to select a pier depth to adequately resist long term sliding soil forces.

138KV "PINEY TO WATTSVILLE" TRANSMISSION LINE
CONFIDENTIAL CLIENT | MARYLAND AND VIRGINIA

Senior transmission engineer and project manager responsible for the design of a 30-mile overhead 138kV transmission line project. The structures consisted of double circuit steel monopole structures supported on vibratory caisson and drilled piers. The design team was responsible for all phases of design and construction support including preparation of comprehensive construction packages.

230KV SUBSTATION UPGRADE
CONFIDENTIAL CLIENT | DISTRICT OF COLUMBIA AND MARYLAND

Senior structural engineer responsible for the structural analysis and design of substation structures and associated foundations to support multiple capacity upgrade projects. Structures consisted of steel lattice towers, frames, and tubular structures. Foundations consisted of concrete pier and spread footings.

69KV AND 115KV SAG MITIGATION AND REPAIR
CENTRAL HUDSON GAS & ELECTRIC | POUGHKEEPSIE, NY

Senior transmission engineer responsible for the multiple projects consisting of 115kV and 69kV transmission line NERC sag mitigation and high-priority structure replacements. Project responsibilities included complete NERC clearance analysis, lattice tower and wood structure evaluation, and the design of reinforcement modifications and replacement structures to correct clearance and structural deficiencies.

EMAIL
 dan.mcclure@NV5.com

EDUCATION
 MS Civil Engineering/Structures
 BS Structural Engineering
 and Construction
 Engineering Technology

EXPERIENCE
 18 years

REGISTRATIONS
 Professional Engineer -
 CT, DE, MA, MD, ME, NH,
 NJ, NY, PA, VA, and WV

GIOVANNI GONZALEZ ELECTRICAL ENGINEERING LEAD

Giovanni has 21 years of experience in providing professional project management and engineering services to public and private sector utilities. His experience include hundreds of transmission and distribution substation projects, such as replacing major electrical equipment, adding new line circuits, distribution substation's re-builts, upgrading relay protection/automation, among others. His expertise includes project management and coordination, planning, substation electrical design, cost estimating, material and contractor procurement, construction oversight, (high/low) equipment specifications, and several other project management tasks for O&M and Capital projects.

PROJECT EXPERIENCE

STETSON SUBSTATION 115/12KV

SOUTHERN CALIFORNIA EDISON | HEMET, CA

Project engineer responsible for the engineering/design of adding a 115kV transformer bank position, a 28MVA Transformer Bank, a 12kV Bank Position, and a 12kV 4.8MVAR capacitor bank. Work included developing a One Line/Elementaries, detailed Conduit and Grounding (Above/Below Ground) drawings, developing Wiring/Schematic diagrams, creation of the Bill Of Materials/Cable Schedule, and development of the Project Design Specification.

ALBERHILL SUBSTATION 500/115KV

SOUTHERN CALIFORNIA EDISON | RIVERSIDE, CA

Project engineer responsible for the Preliminary One Line, Plot Plan and Outdoor design. The substation is a greenfield with two 500kV Line Circuits, two 1120MVA Transformer Banks, five 115kV Line Circuits, and one 115kV Capacitor Bank. The 500kV equipment was Gas Insulated while the 115kV equipment was Air Insulated.

CONSTRUCTION OF A NEW 115/12KV CUSTOMER INTERCONNECTION SUBSTATION (KITCHING SUBSTATION)

CITY OF MORENO VALLEY | MORENO VALLEY, CA

Project manager responsible for project supervision, and oversight of all project electrical/civil/structural engineering design phases. The new substation consisted of two 20MVA 115/12kV transformer banks, four 12kV distribution lines, and a new control house building. Specifications were provided for (high/low) voltage equipment. Provided coordination with the interconnection utility.

DOWNS SUBSTATION 115/12KV

SOUTHERN CALIFORNIA EDISON | RIDGECREST, CA

Project engineer responsible for the engineering/design of the station conversion from 33/12kV to a 115/12kV, 84MVA and upgrading the protection system to SA-2. Work included switchrack re-configuration, developing the One Line/Elementaries, detailed Conduit and Grounding (Above/Below) drawings, developing the Wiring/Schematic diagrams, creation of Bill Of Materials/Cable Schedule, and development of the Project Design Specification Book.

EMAIL

giovanni.gonzalez@NV5.com

EDUCATION

MS Business Administration

BS Electrical Engineering

EXPERIENCE

21 years

CERTIFICATIONS

Certificate in Project Management

Certificate in Construction
Management

FRANK JOHNSON, PE
CONSTRUCTION MANAGER

Frank brings more than 41 years of industry experience to NV5. Prior to joining NV5, he led numerous major projects on behalf of SDG&E, including the construction, commissioning and maintenance of key transmission and distribution substation facilities throughout Southern California.

PROJECT EXPERIENCE

**CONSTRUCTION OPERATIONS MANAGER,
MAJOR PROJECTS DEPARTMENT
SDG&E | SAN DIEGO COUNTY, CA**

Responsible for the oversight, guidance, technical support and interdepartmental coordination for construction, testing and commissioning for all substation and transmission line projects. SDG&E projects completed within the Major Projects organization were completed through EPC contracts and transferred to SDG&E operations upon completion. This included engineering, construction, testing and final commissioning. Projects included the 500kV Suncrest Substation and Sunrise Powerlink project, 500kV East County Substation and 138/69/12kV Boulevard East Substation project, Bay Boulevard 230/69kV Substation and decommissioning of the Southbay Power Plant and associated 138kV and 69kV switchyards, the Talega Substation 230kV +225/-110 MVar Synchronous Condenser Project, Capistrano 230kV and 138kV Gas Insulated Switchgear Project, the Miguel 500kV Synchronous Condenser, and San Luis Rey 230kV Gas Insulated Switchgear and 230kV Synchronous Condenser Project, and the interconnections of several 500kV and 230kV renewable energy projects to the SDG&E electric system.

**SUBSTATION CONSTRUCTION AND MAINTENANCE MANAGER,
KEARNY MAINTENANCE AND OPERATIONS DEPARTMENT
SDG&E | SAN DIEGO COUNTY, CA**

Managed a staff of 138 management and union employees and associated budgets to construct and maintain all of the transmission and distribution substation facilities on SDG&E's system to insure system reliability, system availability and compliance with all company and regulatory criteria.

**SYSTEM PROTECTION MAINTENANCE SUPERVISOR,
ELECTRIC CONSTRUCTION AND MAINTENANCE
SDG&E | SAN DIEGO COUNTY, CA**

Managed a staff of 20 management and union employees and associated budgets to install, test and maintain all of the substation and generation relay and control systems on SDG&E's system.

EMAIL

frank.johnson@NV5.com

EDUCATION

BS Electrical Engineering

EXPERIENCE

41 years

REGISTRATIONS

Professional Engineer -
CA #E10301

AFFILIATIONS

Member, IEEE

Member, IEEE Power
Engineering Society

Pacific Coast Electrical
Association

SDG&E's Representative
of the CAISO Maintenance
Coordination Committee

SDG&E's Representative on the
WECC Substation Workgroup

ROLAND ELVERA, PE
CONSTRUCTION MANAGER

Roland has more than 25 years of experience in construction management, project management and engineering. His diverse skills include project oversight, construction contract administration, monitoring and coordinating site activities, resolving field issues, minimizing change orders, reviewing contractor submittals, monitoring contractor schedules, and acting as liaison between contractors, designers, operations staff, and the public.

PROJECT EXPERIENCE

SDG&E SUBSTATION IMPROVEMENTS

SDG&E | SAN DIEGO, CA

Engineering and contract administration for substation erosion control and grading improvement projects including the Clairemont Substation grading improvements. Duties include interface and coordination with the civil/structural group, coordinating standby personnel, and scheduling geotechnical inspections. Work includes site over-excavation and recompact, a class II base topping, the construction of a 400ft long retaining wall and drainage swale around the site, and a storm water dissipater and outlet structure.

MIRA COSTA COLLEGE CONSTRUCTION MANAGEMENT

MIRA COSTA COLLEGE | OCEANSIDE, CA

Owners representative and construction management for the installation of a new fire line system. Provided project oversight and coordination between the college, the architect, and DSA inspection. Project consisted of upgrading and closing the loop on the fire suppression system to increase fire water pressure and efficiency. Work included installation of approximately 7,000 LF of 8-inch PVC piping, and the construction of a new concrete masonry building to house fire and irrigation pumps.

MISSION TRAILS CONSTRUCTION MANAGEMENT AND INSPECTION

SAN DIEGO COUNTY WATER AUTHORITY | SAN DIEGO, CA

Project Manager for construction management and Inspection for the San Diego County Water Authority Mission Trails Projects which includes the construction of a new pipeline tunnel which will help provide a safe, reliable water supply for San Diego County. The pipeline/tunnel involves underground construction of 4,825 feet of 96-inch pressure pipeline with an impermeable lining in two separate tunnels and demolition of the above ground vents and blow offs on the existing abandoned pipelines.

CITY OF SAN DIEGO CAPITAL IMPROVEMENTS PROGRAM

CITY OF SAN DIEGO | SAN DIEGO, CA

Resident engineer responsible for construction management and inspection services for water supply projects in the City of San Diego's \$773 million Capital Improvements Program. Construction projects include various pump plants, reservoirs and water pipelines. Responsibilities included contract administration, project oversight, reviewing the contractors' construction schedules, managing reviews of all contractor transmittals, successfully negotiating and preparing change orders and field orders, responding to contractors' technical requests, and resolution of field problems.

EMAIL

roland.elvera@NV5.com

EDUCATION

BS Civil Engineering

EXPERIENCE

25 years

REGISTRATIONS

Professional Engineer -
CA #C54936