

CITY OF OCEANSIDE**PROFESSIONAL SERVICES AGREEMENT**

THIS AGREEMENT, dated _____, 20____ for identification purposes, is made and entered into by and between the CITY OF OCEANSIDE, a municipal corporation, hereinafter designated as "CITY", and N2W ENGINEERING, hereinafter designated as "CONSULTANT".

RECITALS

- A. CITY desires to obtain professional engineering services from an independent contractor for the above named project.
- B. CONSULTANT has submitted a proposal to provide engineering services for the CITY in accordance with the terms set forth in this Agreement.
- C. CITY desires to contract with CONSULTANT as an independent contractor and CONSULTANT desires to provide services to CITY as an independent contractor.
- D. CONSULTANT has demonstrated its competence and professional qualifications necessary for the satisfactory performance of the services designated herein by virtue of its experience, training, education and expertise.

NOW, THEREFORE, THE PARTIES MUTUALLY AGREE AS FOLLOWS:

- 1.0 **SCOPE OF WORK.** The project is more particularly described as follows: Feasibility study, engineering design, bidding and construction phase support for the North Valley Lift Station Replacement Project.
- 1.1 **PROFESSIONAL SERVICES PROVIDED BY CONSULTANT.** The professional services to be performed by CONSULTANT shall consist of but not be limited to the following:
 - 1.1.1 Work closely with the City Engineer in performing work in accordance with this Agreement in order to receive clarification as to the result which the CITY expects to be accomplished by CONSULTANT. The City Engineer, under the authority of the City Manager, shall be the CITY'S authorized representative in the interpretation and enforcement of all work performed in connection with this Agreement. The City Engineer may delegate authority in connection with this Agreement to the City Engineer's designees. For the purposes of directing the CONSULTANT'S performance in accordance with this Agreement, the City

NORTH VALLEY LIFT STATION REPLACEMENT (909164124722)

Engineer delegates authority to the project manager: Neil Irani, P.E., City of Oceanside.

- 1.1.2 In compliance with Government Code section 7550, the CONSULTANT shall include a separate section in the proposal prepared pursuant to this Agreement, which contains a list of all the subcontractors and dollar amounts of all contracts and subcontracts required for the preparation of work described in this Agreement.
- 1.1.3 All services as described in both the scope of the attached consultant proposal and the scope of the attached request for proposals.

1.2 SERVICES PROVIDED BY CITY. The CITY shall perform the following services:

- 1.2.1 All services as described in the scope of the attached request for proposals.

2.0 TIMING REQUIREMENTS

- 2.1 Time is of the essence in the performance of work under this Agreement and the timing requirements in the attached preliminary project schedule shall be strictly adhered to unless otherwise modified in writing as set forth in Section 2.2. Failure by CONSULTANT to strictly adhere to these timing requirements may result in termination of this Agreement by the CITY and the assessment of damages against the CONSULTANT for delays. All work shall be completed in every detail to the satisfaction of the Engineer three years from the date of contract execution..
- 2.2 CONSULTANT shall submit all requests for extensions of time for performance in writing to the City Engineer no later than ten (10) calendar days after the start of the condition which purportedly caused the delay, and not later than the date on which performance is due. The City Engineer shall review all such requests and may grant reasonable time extensions for unforeseeable delays which are beyond CONSULTANT'S control.
- 2.3 The City reserves the right to extend the term of the agreement for up to one (1) additional one-year period under the same terms and conditions, subject to approval of the City Engineer. The City shall provide written notice of its intent to extend the agreement at least thirty (30) days prior to the expiration of the initial term.
- 3.0 **DESIGN CRITERIA AND STANDARDS.** All work shall be performed in accordance with applicable CITY, state and federal codes and criteria. In the performance of its professional services, CONSULTANT shall use the degree of care and skill ordinarily exercised by consultants under similar conditions.

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All plans shall be prepared and provided to the city using the latest version of AutoCAD Civil 3D. Contract specifications shall conform to the CITY'S specification procedures and the format of the CITY'S standard form Contract Documents for Public Works Construction.

- 4.0 **INDEPENDENT CONTRACTOR.** CONSULTANT'S relationship to the CITY shall be that of an independent contractor. CONSULTANT shall have no authority, express or implied, to act on behalf of the CITY as an agent, or to bind the CITY to any obligation whatsoever, unless specifically authorized in writing by the City Engineer. The CONSULTANT shall not be authorized to communicate directly with, nor in any way direct the actions of, any bidder or the construction contractor for this project without the prior written authorization by the City Engineer. CONSULTANT shall be solely responsible for the performance of its employees, agents and subcontractors under this agreement, including the training of each employee regarding the rights and responsibilities of an employer and employee for any potential discrimination or harassment claim under state or federal law.

CONSULTANT shall report to the CITY any and all employees, agents and consultants performing work in connection with this project, and all shall be subject to the approval of the CITY.

- 5.0 **CITY BUSINESS LICENSE.** Prior to the commencement of any work under this agreement, the CONSULTANT shall obtain and present a copy of an Oceanside City Business License to the City Engineer.

- 6.0 **WORKERS' COMPENSATION.** Pursuant to Labor Code section 1861, the CONSULTANT hereby certifies that the CONSULTANT is aware of the provisions of Section 3700 of the Labor Code which require every employer to be insured against liability for Workers' Compensation or to undertake self-insurance in accordance with the provisions of that Code, and the CONSULTANT will comply with such provisions and provide certification of such compliance as a part of these Award Documents. The certification shall be in accordance with Subsections 7.3 through 7.8 of this Agreement.

- 7.0 **LIABILITY INSURANCE.**

- 7.1 CONSULTANT shall, throughout the duration of this Agreement, maintain comprehensive general liability and property damage insurance, or commercial general liability insurance, covering all operations of CONSULTANT, its agents and employees, performed in connection with this Agreement including, but not limited to, premises and automobile.

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- 7.2 CONSULTANT shall maintain liability insurance in the following minimum limits:

Comprehensive General Liability Insurance
(bodily injury and property damage)

Combined Single Limit Per Occurrence	\$ 2,000,000
General Aggregate	\$ 4,000,000*

Commercial General Liability Insurance
(bodily injury and property damage)

General limit per occurrence	\$ 2,000,000
General limit project specific	\$ 4,000,000

<u>Automobile Liability Insurance</u>	\$ 2,000,000
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*General aggregate per year, or part thereof, with respect to losses or other acts or omissions of CONSULTANT under this Agreement.

- 7.3 If coverage is provided through a Commercial General Liability Insurance policy, a minimum of 50% of each of the aggregate limits shall remain available at all times. If over 50% of any aggregate limit has been paid or reserved, the CITY may require additional coverage to be purchased by the CONSULTANT to restore the required limits. The CONSULTANT shall also notify the CITY'S Project Manager promptly of all losses or claims over \$25,000 resulting from work performed under this contract, or any loss or claim against the CONSULTANT resulting from any of the CONSULTANT'S work.
- 7.4 All insurance companies affording coverage to the CONSULTANT for the purposes of this Section shall add the City of Oceanside as "additional insured" under the designated insurance policy for all work performed under this Agreement. Insurance coverage provided to the CITY as an additional insured shall be primary insurance and other insurance maintained by the CITY, its officers, agents and employees shall be excess only and not contributing with insurance provided pursuant to this Section.
- 7.5 All insurance companies affording coverage to the CONSULTANT pursuant to this Agreement shall be insurance organizations authorized by the Insurance Commissioner of the State of California to transact business of insurance in the state or be rated as A-X or higher by A.M. Best.
- 7.6 CONSULTANT shall provide thirty (30) days written notice to the CITY should any insurance policy required by this Agreement be cancelled before the expiration date. For the purposes of this notice requirement, any material change in the policy

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prior to the expiration shall be considered a cancellation.

- 7.7 CONSULTANT shall provide evidence of compliance with the insurance requirements listed above by providing, at minimum, a Certificate of Insurance and applicable endorsements, in a form satisfactory to the City Attorney, concurrently with the submittal of this Agreement.
- 7.8 CONSULTANT shall provide a substitute Certificate of Insurance no later than thirty (30) days prior to the policy expiration date. Failure by the CONSULTANT to provide such a substitution and extend the policy expiration date shall be considered a default by CONSULTANT and may subject the CONSULTANT to a suspension or termination of work under the Agreement.
- 7.9 Maintenance of insurance by the CONSULTANT as specified in this Agreement shall in no way be interpreted as relieving the CONSULTANT of any responsibility whatsoever and the CONSULTANT may carry, at its own expense, such additional insurance as it deems necessary.
- 8.0 **PROFESSIONAL ERRORS AND OMISSIONS INSURANCE.** Throughout the duration of this agreement and four (4) years thereafter, the CONSULTANT shall maintain professional errors and omissions insurance for work performed in connection with this Agreement in the minimum amount of Two Million dollars (\$2,000,000).

CONSULTANT shall provide evidence of compliance with these insurance requirements by providing a Certificate of Insurance.

- 9.0 **CONSULTANT'S INDEMNIFICATION OF CITY.** To the greatest extent allowed by law, CONSULTANT shall indemnify and hold harmless the CITY and its officers, agents and employees against all claims for damages to persons or property arising out of CONSULTANT'S work, including the negligent acts, errors or omissions or wrongful acts or conduct of the CONSULTANT, or its employees, agents, subcontractors, or others in connection with the execution of the work covered by this Agreement, except for those claims arising from the willful misconduct, sole negligence or active negligence of the CITY, its officers, agents, or employees. CONSULTANT'S indemnification shall include any and all costs, expenses, attorneys' fees, expert fees and liability assessed against or incurred by the CITY, its officers, agents, or employees in defending against such claims or lawsuits, whether the same proceed to judgment or not. Further, CONSULTANT at its own expense shall, upon written request by the CITY, defend any such suit or action brought against the CITY, its officers, agents, or employees founded upon, resulting or arising from the conduct, tortious acts or omissions of the CONSULTANT.

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CONSULTANT'S indemnification of CITY shall not be limited by any prior or subsequent declaration by the CONSULTANT.

- 10.0 **ERRORS AND OMISSIONS.** In the event that the City Engineer determines that the CONSULTANT'S negligence, misconduct, errors or omissions in the performance of work under this Agreement has resulted in expense to CITY greater than would have resulted if there were no such negligence, errors or omissions in the plans or contract specifications, CONSULTANT shall reimburse CITY for the additional expenses incurred by the CITY, including engineering, construction and/or restoration expense. Nothing herein is intended to limit CITY'S rights under Sections 7, 8 or 9.
- 11.0 **NO CONFLICT OF INTEREST.** The CONSULTANT shall not be financially interested in any other CITY contract for this project. For the limited purposes of interpreting this section, the CONSULTANT shall be deemed a "City officer or employee", and this Section shall be interpreted in accordance with Government Code section 1090. In the event that the CONSULTANT becomes financially interested in any other CITY contract for this project, that other contract shall be void. The CONSULTANT shall indemnify and hold harmless the CITY, under Section 9 above, for any claims for damages resulting from the CONSULTANT'S violation of this Section.
- 12.0 **OWNERSHIP OF DOCUMENTS.** All plans and specifications, including details, computations and other documents, prepared or provided by the CONSULTANT under this Agreement shall be the property of the CITY. The CITY agrees to hold the CONSULTANT free and harmless from any claim arising from any use, other than the purpose intended, of the plans and specifications and all preliminary sketches, schematics, preliminary plans, architectural perspective renderings, working drawings, including details, computation and other documents, prepared or provided by the CONSULTANT. CONSULTANT may retain a copy of all material produced under this Agreement for the purpose of documenting their participation in this project.
- 13.0 **COMPENSATION.**
- 13.1 For work performed by CONSULTANT in accordance with this Agreement, CITY shall pay CONSULTANT in accordance with the schedule of billing rates set forth in Exhibit "A", attached hereto and incorporated herein by reference. No rate changes shall be made during the term of this Agreement without prior written approval of the City Engineer. CONSULTANT'S compensation for all work performed in accordance with this Agreement shall not exceed the total contract price of **\$2,167,872.**

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No work shall be performed by CONSULTANT in excess of the total contract price without prior written approval of the City Engineer. CONSULTANT shall obtain approval by the City Engineer prior to performing any work which results in incidental expenses to CITY as set forth in Section 13.2.2.

- 13.2 CONSULTANT shall maintain accounting records including the following information:
 - 13.2.1 Names and titles of employees or agents, types of work performed and times and dates of all work performed in connection with this Agreement which is billed on an hourly basis.
 - 13.2.2 All incidental expenses including reproductions, computer printing, postage, mileage and subsistence.
- 13.3 CONSULTANT'S accounting records shall be made available to the City Engineer for verification of billings, within a reasonable time of the City Engineer's request for inspection.
- 13.4 CONSULTANT shall submit monthly invoices to CITY. CITY shall make partial payments to CONSULTANT not to exceed the total contract price within thirty (30) days of receipt of invoice, subject to the approval of the City engineer.
- 14.0 **TERMINATION OF AGREEMENT.** Either party may terminate this Agreement by providing thirty (30) days written notice to the other party.

If any portion of the work is terminated or abandoned by the CITY, then the CITY shall pay CONSULTANT for any work completed up to and including the date of termination or abandonment of this Agreement, in accordance with Section 13. The CITY shall be required to compensate CONSULTANT only for work performed in accordance with the Agreement up to and including the date of termination.

- 15.0 **ASSIGNMENT AND DELEGATION.** This Agreement and any portion thereof shall not be assigned or transferred, nor shall any of the CONSULTANT'S duties be delegated, without the express written consent of the CITY. Any attempt to assign or delegate this Agreement without the express written consent of the CITY shall be void and of no force or effect. Consent by the CITY to one assignment shall not be deemed to be a consent to any subsequent assignment. This Agreement shall inure to the benefit of and be binding upon the parties hereto and their respective successors and assigns.
- 16.0 **ENTIRE AGREEMENT.** This Agreement comprises the entire integrated

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understanding between CITY and CONSULTANT concerning the work to be performed for this project and supersedes all prior negotiations, representations or agreements.

- 17.0 **INTERPRETATION OF THE AGREEMENT.** The interpretation, validity and enforcement of the Agreement shall be governed by and construed under the laws of the State of California. The Agreement does not limit any other rights or remedies available to CITY.

The CONSULTANT shall be responsible for complying with all local, state and federal laws whether or not said laws are expressly stated or referred to herein.

Should any provision herein be found or deemed to be invalid, the Agreement shall be construed as not containing such provision and all other provisions, which are otherwise lawful, shall remain in full force and effect, and to this end the provisions of this Agreement are severable.

- 18.0 **AGREEMENT MODIFICATION.** This Agreement may not be modified orally or in any manner other than by an Agreement in writing, signed by the parties hereto.

- 19.0 **DISPUTE RESOLUTION.**

- a. Any controversy or claim arising out of or relating to this Agreement, or concerning the breach or interpretation thereof, shall be first submitted to mediation, the cost of which shall be borne equally by the parties.
- b. No suit shall be brought on this contract unless all statutory claims filing requirements have been met.

- 20.0 **NOTICES.** All notices, demands, requests, consents or other communications which this Agreement contemplates or authorizes, or requires or permits either party to give to the other, shall be in writing and shall be personally delivered or mailed to the respective party as follows:

TO CITY:

Brian Thomas
City Engineer
City of Oceanside
300 North Coast Highway
Oceanside, CA 92054

TO CONSULTANT:

Greg Guillen, PhD, PE
Project Manager
N2W Engineering
3240 El Camino Real, Suite 120
Irvine, CA 92602

Either party may change its address by notice to the other party as provided herein.

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Communications shall be deemed to have been given and received on the first to occur:

- a. Actual receipt at the offices of the party to whom the communication is to be sent, as designated above, or
- b. Three (3) working days following the deposit in the United States mail of registered or certified mail, postage prepaid, return receipt requested, addressed to the offices of the party to whom the communication is to be sent, as designated above.


21.0 **SIGNATURES.** The individuals executing this Agreement represent and warrant that they have the right, power, legal capacity and authority to enter into and to execute this Agreement on behalf of the respective legal entities of the CONSULTANT and the CITY.

IN WITNESS WHEREOF, the parties hereto for themselves, their heirs, executors, administrators, successors and assigns do hereby agree to the full performance of the covenants herein contained and have caused this Professional Services Agreement to be executed by setting hereunto their signatures on the dates indicated below:

N2W ENGINEERING

By: 
Ching Wei/Principal Engineer/CFO

Date: May 14, 2025

By: 
Jian (James) Wang/Principal/COO

Date: May 14, 2025

Employer ID No.

CITY OF OCEANSIDE

By: _____
Jonathan Borrego, City Manager

Date: _____

APPROVED AS TO FORM:



City Attorney

NOTARY ACKNOWLEDGMENTS OF CONSULTANT MUST BE ATTACHED.

ACKNOWLEDGMENT

A notary public or other officer completing this certificate verifies only the identity of the individual who signed the document to which this certificate is attached, and not the truthfulness, accuracy, or validity of that document.

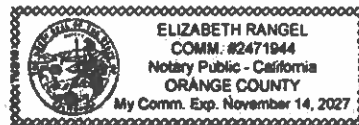
State of California
County of ORANGE)

On MAY 14TH, 2025 before me, ELIZABETH RANGEL, NOTARY PUBLIC
(insert name and title of the officer)

personally appeared CHING WEI & JIAN WANG,
who proved to me on the basis of satisfactory evidence to be the person(s) whose name(s) ~~is~~/are
subscribed to the within instrument and acknowledged to me that ~~he~~/she/they executed the same in
~~his~~/her/their authorized capacity(ies), and that by ~~his~~/her/their signature(s) on the instrument the
person(s), or the entity upon behalf of which the person(s) acted, executed the instrument.

I certify under PENALTY OF PERJURY under the laws of the State of California that the foregoing paragraph is true and correct.

WITNESS my hand and official seal.



Signature  (Seal)



California Secretary of State Electronic Certified Copy

I, ALEX PADILLA, Secretary of State of the State of California, hereby certify that the attached transcript of 3 pages is a full, true and correct copy of the original record in the custody of the California Secretary of State's office.



IN WITNESS WHEREOF, I execute
this certificate and affix the Great
Seal of the State of California on
this day of August 30, 2020

A handwritten signature in black ink, reading "Alex Padilla".

ALEX PADILLA
Secretary of State

Verification Number: KDQ13BP
Entity (File) Number: C1985958

To verify the issuance of this Certificate, use the Verification Number above
with the Secretary of State Electronic Verification Search available at
bizfile.sos.ca.gov





**California Secretary of State
Electronic Filing**



Corporation - Statement of Information

Entity Name: N2W ENGINEERING, INC.

Entity (File) Number: C1985958

File Date: 08/28/2020

Entity Type: Corporation

Jurisdiction: CALIFORNIA

Document ID: GJ02942

Detailed Filing Information

1. Entity Name: N2W ENGINEERING, INC.
2. Business Addresses:
 - a. Street Address of Principal Office in California: 12005 Lambert
Tustin, California 92782
United States of America
 - b. Mailing Address: 12005 Lambert
Tustin, California 92782
United States of America
 - c. Street Address of Principal Executive Office: 12005 Lambert
Tustin, California 92782
United States of America
3. Officers:
 - a. Chief Executive Officer: Jinghui Niu
12005 Lambert
Tustin, California 92782
United States of America
 - b. Secretary: Jian Wang
1921 Carnegie Ave, #3H
Santa Ana, California 92705
United States of America

Certificate Verification Number: KDAQ13BP
Use bizfile.sos.ca.gov to verify the certified copy.

Document ID: GJ02942



California Secretary of State Electronic Filing

Officers (cont'd):

c. Chief Financial Officer: Ching Wei
1921 Carnegie Ave, #3H
Santa Ana, California 92705
United States of America

4. Director: Jinghui Niu
12005 Lambert
Tustin, California 92782
United States of America

Number of Vacancies on the Board of
Directors: 0

5. Agent for Service of Process: Jinghui Niu
12005 Lambert
Tustin, California 92782
United States of America

6. Type of Business: Environmental Engineering

By signing this document, I certify that the information is true and correct and that I am authorized by California law to sign.

Electronic Signature: Jinghui Niu

Use bizfile.sos.ca.gov for online filings, searches, business records, and resources.

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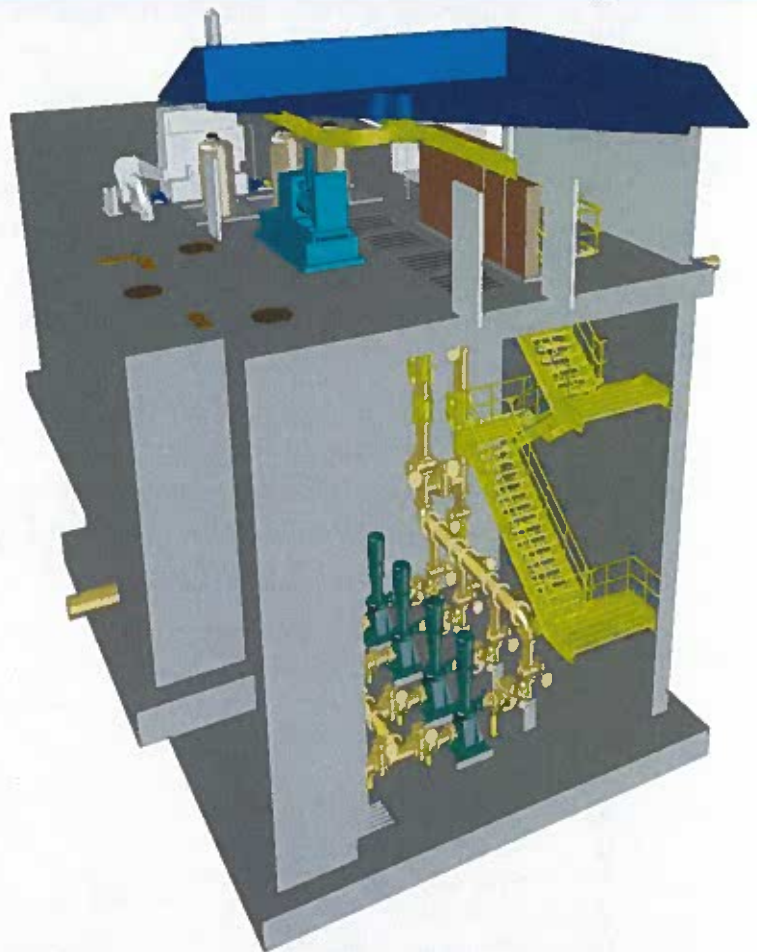
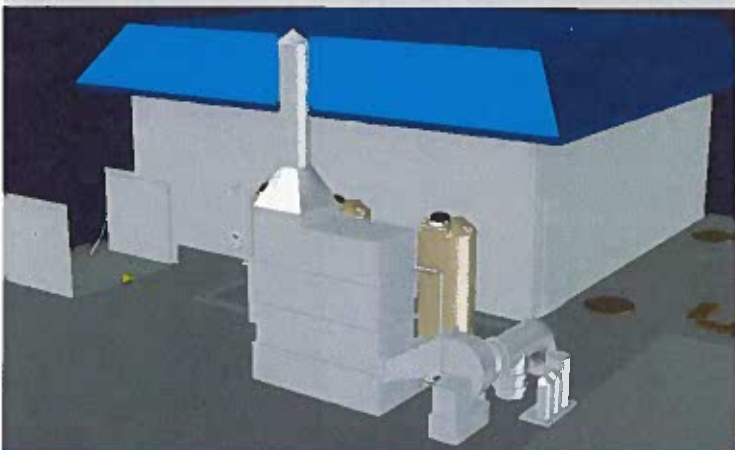
Corporation - Attachment to Statement of Information

List of Additional Directors:

1. Jian Wang
1921 Carnegie Ave, #3H
Santa Ana, California 92705
United States of America
2. Ching Wei
1921 Carnegie Ave, #3H
Santa Ana, California 92705
United States of America
- 3.
- 4.
- 5.
- 6.
- 7.

Certificate Verification Number: KDQ13BP
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Document ID: GJ02942



PROPOSAL

City of Oceanside

**Engineering Services for
North Valley Lift Station Replacement Project**

City of Oceanside

March 26, 2025

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March 26, 2025

Mabel Uyeda, PE
Principal Water Engineer
City of Oceanside
Water Utilities Department

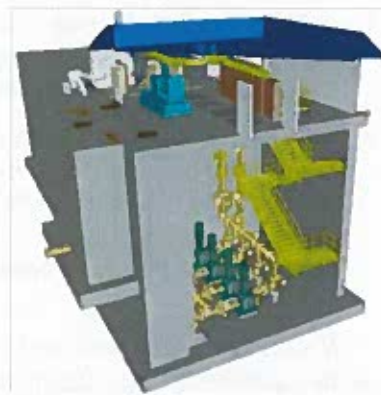


Subject: Engineering Services for North Valley Lift Station Replacement Project

Dear Ms. Uyeda,

N2W is pleased to continue our strong working relationship with both the engineering and operations staff of the City of Oceanside's Water Utilities Department. This ongoing collaboration has enabled us to gain an in-depth understanding of the City's standards and procedures, allowing N2W to initiate work immediately without the need for costly learning curves or ramp-up time.

The success of the North Valley Lift Station Replacement project depends on the selection of a highly experienced, locally based, and dedicated consultant team with expertise in lift station design, system hydraulics, construction cost estimation and control, pump station reliability and redundancy, operational and maintenance ease, value engineering, budget-conscious design, risk mitigation, scheduling, and project delivery. N2W is uniquely qualified to deliver this project due to our extensive experience with similar projects and our comprehensive knowledge of both the existing infrastructure and the City's operational and maintenance requirements. Additionally, we are focused on delivering a design that aligns with the City's operational and maintenance needs and budgetary constraints.



North Valley Lift Station 3D Model

Our approach leverages the depth, expertise, and commitment of our North County-based team, who have extensive experience planning and designing lift stations throughout Southern California.

N2W Project Area Familiarity. *N2W is on a progressive design build (PDB) team for the new Oceanside Mesa Garrison Lift Station (OMGLS) for the City of Oceanside.* Our knowledge of the facilities and **relationships with City staff** facilitates an efficient design process that identifies solutions that maximize value of reinvestment in the lift station facility.

N2W Team Experience. The N2W team is confident that our extensive knowledge and expertise, coupled with our understanding of the City's expectations, will allow us to deliver the highest quality of service. Our team has successfully designed and implemented numerous lift stations and distribution projects, ensuring full compliance with permits and state regulations. We integrate advanced engineering practices and sustainable design principles to optimize cost, efficiency, and performance. With a deep understanding of the complexities surrounding regulatory compliance, permitting, and operational efficiency, we ensure a seamless execution from design through to project completion.

Our intimate knowledge of the City's infrastructure coupled with decades of lift-station replacement expertise makes us your ideal partner.

We offer the following advantages to the City:

- **Understanding and Approach.** N2W possesses an unparalleled understanding of the challenges currently facing the City and offers tangible solutions to ensure the successful completion of the project. Our proposal



outlines a technical approach and work plan designed to streamline project delivery, rearranging tasks and incorporating innovative strategies to save both time and money, while ensuring the City's satisfaction and project success.

Based on our experience, we have initiated several key project tasks for your consideration, including 3D design of the lift station, a preliminary construction cost estimate, value engineering, and a paired comparison analysis of the three alternative sites. By preparing these documents, we aim to demonstrate our team's commitment to the City of Oceanside and the successful execution of this important project.

- **Early Cost Certainty and Engineering Design Guideline on Sewer Lift Station.** N2W has completed the preliminary design and construction cost estimate for Alternative 1 and will develop an engineering design guideline for the City Sewer Lift Station at the PDR stage. This commitment will establish a baseline for the City's budget certainty and provide a cost modeling tool to support value engineering, ensuring the sewer lift station design meets both budgetary constraints and operational requirements. The design guideline will also help streamline the City's approach to sewer lift station projects, not only for the North Valley replacement project but also for future lift station designs and construction, aligning with the City's long-term goals.
- **Project Team Expertise.** We have structured our team to address the City needs. Overall design will be led by **James Wang, PE**, a Design Manager that specializes in the design and construction of lift stations. Our team partner, **Alexandra Martini** (Dudek) will lead environmental efforts on this project.
- **Strong, Responsive Project Management.** **Greg Guillen, PhD, PE** will serve as a Project Manager, supported by a Civil/Pipeline Design Manager, **Justin Scheidel, PE**. Both Greg and Justin are known for their hands-on and consensus-building work style. Our project management team has experience working with agencies like the City and will work closely with you and your staff to complete the project with an emphasis on budget, performance, and schedule conformance and City satisfaction.

N2W looks forward to assisting the City with the completion of its North Valley Lift Station Replacement project, and we respectfully request to give us that opportunity by selection of the N2W team for this project. If you have any questions or require any additional information, please feel free to contact me at 909.557.0852 or greg.guillen@N2WEng.com.

We acknowledge receipt of Addendum No.1 dated 2/24/2025 and Addendum No.2 dated 3/20/2025. Please find the signed addenda in **Appendix A**.

Sincerely,

Greg Guillen, PhD, PE
Principal Engineer / Project Manager

James Wang, PE
Principal Engineer / Design Manager

1 Firm Overview

N2W Engineering

N2W was founded in 1997 in Irvine, CA as an engineering consulting practice working for municipal water and wastewater agencies and special districts. In fact, our first corporate projects included planning, design, and construction of wastewater treatment plants. N2W has continued building our water/wastewater/infrastructure portfolio for the past 28 years, offering a comprehensive range of services, including design engineering, construction management, environmental compliance, and operations and maintenance services. Our focus on water, wastewater, and infrastructure engineering in California gives our project team an in-depth understanding of the challenges faced by the public agencies like City of Oceanside and experience in crafting creative solutions.

In House Service. We are a full-service environmental, water/wastewater, infrastructure engineering consultant, operation and maintenance services provider, and contractor. It is our objective to provide our clients with high quality services throughout the entire duration of a project. We prioritize close collaboration with our clients to establish ourselves as integral members of their team. This partnership results in quicker engineering assessment and problem solving, while also reducing costs.

Partnership for Successful Project Delivery. As a mid-sized firm, we combine the personal service of dedicated project managers, who stay with your project from start to finish, with breadth and depth of capabilities necessary to fulfill your project requirements. Our project managers are empowered problem-solvers, with the ability to make decisions in a timely fashion to keep project momentum moving forward. We are proud of our low employee turnover.

Our focus on water resources in California gives our team an in-depth understanding of the solutions to the challenges faced by the City. This includes the nuances of lift station system, pipeline design and odor control issues.

N2W AT A GLANCE

- Full-service environmental, water, and wastewater engineering consultant, contractor, and operator
- 5 offices in Irvine, Fullerton, San Marcos, Vista, and Gilroy
- >20 professional employees
- Founded in 1997
- Financially solvent company with no risk of bankruptcy, merger, or acquisition during this project

Point of Contact

Greg Guillen, PhD, PE.

P 909.557.0852

E greg.guillen@N2WEng.com

*Greg is located in the San Marcos office



Table 1. Additional Firm Information

City Requested Information	
Identify the name of your organization, address and telephone number.	Name N2W Engineering Main Office 3240 El Camino Real, Suite 120, Irvine, CA 92602 T 714.716.1711 Local Office 1830 Lucerne Cir, San Marcos, CA 92078 T 909.557.0852 Employee No. in Local Office 4



replacement strategy. The chopper pump was selected as it can match the existing flow and head conditions while improving reliability and ragging issues. By addressing these challenges, the IEUA San Bernardino Lift Station has improved pump efficiency, reduced maintenance needs, and ensured long-term operational reliability.

3 Project Understanding and Approach

Project Understanding

We understand the City is seeking a qualified firm to perform a feasibility study, complete design, and prepare a complete, bid-ready package of construction documents for the North Valley Lift Station (NVLS) Replacement Project.

The existing NVLS, built in 1974 and upgraded in 2005, is nearing the end of its useful life. We understand the City has the following goals/expectations for the project:

1. Perform a flow study to determine average dry, peak dry, and peak wet weather flows based on current and projected growth.
2. Perform a feasibility study to assess three potential sites for the new NVLS and recommend the best location.
3. Identify and apply for all required permits from the federal, state, and local agencies.
4. Prepare detailed, bid-ready design documents.
5. Provide engineering support during bidding and construction phases.

The N2W team will work closely with the City, Rainbow Municipal Water District (RMWD), City of Vista, and developers to ensure the project aligns with future growth and complies with all regulatory requirements.

We are confident our team possesses the best understanding of this project's goals and is equipped with the skills to execute a successful project for the City. We are not only prepared to begin work immediately, but we have commenced on some preliminary design items that will be highlighted throughout this proposal. Our core team members have made a commitment to dedicate themselves to the North Valley Sewer Lift Station Replacement Project. To enable our project team to meet the City's expectations with respect to staff skills, resources, and schedule, a Rapid Start Binder will be delivered to the City 15 & 30 days after project award. This will include, as a minimum, the following:

- **Environmental Documentation and Permitting:** reviews and next steps
- **Preliminary Design and Construction Estimate Modeling**
- **Project Risk Register:** detailed list of preliminary risks, risk factor, and risk allocation
- **Permit Matrix:** all-encompassing list for the entire project
- **Document Control:** outline of protocols and filing structure
- **Project Schedule:** draft schedule, incorporating key milestones
- **Monthly Report:** template of outline and content

The following section includes our initial evaluation and approach to the proposed project.

Technical Approach

Our qualifications and project references demonstrate significant and unique qualifications in addressing the Project's technical areas and key constraints. This is demonstrated by a partial project experience listed with many of the relevant attributes to this project's scope of work. Those experiences result in the streamlining of project tasks and creative cost-effective solutions to its challenges. We have developed a problem/solution table, **Table 2**, to highlight potential issues we have addressed for the North Valley Sewer Lift Station project and provide a preliminary design in **Appendix C**.

Lift Station Design Considerations

Our structured approach to executing preliminary and detailed design of the lift station is presented in **Table 3** below. This approach aligns with the Scope of Work presented in the RFP and highlights the specific activities required to successfully complete the project.

Table 2. Problem and Solution Qualification Process

No.	Problem	Solution
1	Construction cost	<ol style="list-style-type: none"> 1: Design to Budget: Adhere to the budget constraints outlined in the NZW approach as detailed in the proposal. 2: Construction Cost and Cash Flow Projection Model: Develop a model for cost certainty and value engineering, referencing the NZW preliminary cost estimate. 3: Value Engineering: Implement value engineering practices to optimize project value (see detailed value engineering section below). 4: Cost Control for Design and Construction: Ensure cost control measures are in place throughout both the design and construction phases, with a guaranteed maximum price (GMP) for added cost certainty. 5: Equipment Pre-selection, Procurement, and Handling: Pre-select and procure equipment with a performance guarantee to eliminate contractor markups. 6: Comprehensive Bid Set and Engineering Specifications: Provide a complete and accurate bid set, including 3D designs from NZW, and detailed engineering specifications to minimize change orders. 7: Pre-screening Contractors and Securing Bids: Pre-screen contractors and obtain competitive bids. Facilitate a constructability review and pre-qualify the best contractor, ensuring high quality and competitive pricing for the City.
2	Pump Station Reliability, Redundancy, and Ease of Operation & Maintenance	<ol style="list-style-type: none"> 1: Chopper Pump (Dry Pit Installation): Install a chopper pump in a dry pit configuration. 2: Dual Wet Well Configuration: Utilize a dual wet well design for operational efficiency and redundancy. 3: Adequate Working Volume/Water Depth: Ensure the wet well provides sufficient working volume and a minimum water depth of 10 feet, along with adequate NPSHa (Net Positive Suction Head available). 4: Overflow Basin with Redundant Pump Station: Include an overflow basin equipped with a submersible chopper pump, serving as a backup pump station with the isolation valve in dry pit for easy operation. 5: Power Generator and Load Shedding: Install a power generator inside the pump station building, with load-shedding capabilities linked to the wastewater treatment plant (WWTP). 6: Monorail Over Pumps with Grating: Install a monorail system above the pumps, with grating for easy access and maintenance. 7: Control Panel Orientation: Position the control panel facing the grating to facilitate easy operation of the pumps. 8: Chemical Scrubber Odor Control: Implement a chemical scrubber for odor control outside the building in accordance with area classification. Alternative biofilter/landscape feature above the overflow basin water void space. 9: Chemical Tank and Pumps: Install the chemical tank and pumps outside the building to comply with area classification requirements. 10: Reliable System Hydraulic Design: Adhere to HIS guidelines for pump intake, NPSHr (Net Positive Suction Head required), and optimal velocity in both suction and discharge lines.
3	Value Engineering	<ol style="list-style-type: none"> 1: One (1)-Hour Overflow Basin: Design the overflow basin with a 1-hour capacity due to the close proximity of the WWTP. NZW will prepare an emergency response plan. 2: Optimization of Emergency Overflow Basin: Optimize the water depth and footprint of the emergency overflow basin to minimize construction costs (e.g., compare 10 ft depth with the current footprint vs. 15 ft depth with a smaller footprint). 3: Odor Control for Wet Well: Implement odor control for the wet well only, with a damper leading to the emergency overflow basin, or utilize a spray nozzle odor control system for the emergency overflow basin. 4: Building Size Reduction: Reduce the building size to house control panel/power generator (addressing noise concerns). Place chemical/odor control system outside the building to comply with electrical area classification. 5: Chemical Scrubber Odor Control or Biofilter: Install a chemical scrubber odor control system or a biofilter above the emergency overflow basin (ensure the use of void space for the overflow basin). 6: Alternative 1: Open Cut Channel for Gravity Sewer Inlet: Consider an open-cut channel for the gravity sewer inlet as an alternative to tunneling to achieve construction cost savings. 7: Dual Forcemain Design: Implement a dual forcemain design (new and existing). NZW will provide a hydraulic and operational plan for the dual forcemain system operation. 8: Common Trench Design: Use Common for new gravity sewer and forcemain. 9: Common Wall Design: Use a common wall design for the dry pit, wet pit, and emergency overflow basin (EOB) to streamline construction and maximize space efficiency. 10: Load Shedding from WWTP for Sewer Lift Station: Integrate load shedding capabilities from the WWTP to the sewer lift station. 11: Evaluate Existing Pump Station Power: Assess the existing pump station power system and plan for the cutover to the new lift station.
4	Existing Pump Station Remain Operational	<ol style="list-style-type: none"> 1: Construction Sequence: A clear plan outlining the step-by-step process to ensure efficient execution and minimal delays. 2: Detailed Tie-in Design: A thorough design for integrating new and existing systems with minimal disruptions and compliance with technical standards. 3: Comprehensive Construction, Commissioning, and Startup Schedule: A structured timeline for all phases, with milestones, responsibilities, and contingency plans for timely delivery. 4: Standby Operation Procedures: Defined procedures to maintain operational readiness during emergencies, downtimes, or transitional phases. 5: Early Involvement of City Engineering and Operations Staff: Early engagement of engineering and operations teams to identify challenges and ensure alignment across all phases.
5	Schedule	<ol style="list-style-type: none"> 1: Equipment pre-selection/ procurement 2: Design and construction sequencing 3: Permitting plan and coordination with various agencies 4: 3D process mechanical design 5: Contractor pre-screening
6	Project delivery and risks	<ol style="list-style-type: none"> 1: Contractor Prequalification: Assessing contractors to ensure they meet required qualifications and safety standards. 2: Coordination with Agency for Permitting: Collaborating with agencies to secure necessary permits and ensure compliance. 3: NZW 3D Design: Using 3D modeling to improve project accuracy and visualization. 4: Project Schedule: A detailed timeline with milestones to ensure timely delivery. 5: Alternative Delivery Methods: Evaluating different delivery methods for efficiency and cost-effectiveness.

Flow Study for Accurate Design Criteria

N2W has teamed with Dudek to evaluate current and future projected flows to the NVLS. Utilizing the City's current hydraulic model, our team will evaluate the following design parameters:

- Current flowrate into the NVLS which will be validated and calibrated based on the results of the flow study
- Future projected flowrates for the ultimate buildout of this region of the City's collection system based on anticipated housing developments
- Adjustments to these flowrates based on anticipated impacts of residential infill and accessory dwelling units

Our team will conduct flow monitoring of the gravity trunk main and tributaries of the gravity collection system to accurately determine the current flows into the NVLS. This information will be used to calibrate the model and provide the most accurate assessment of current and future flowrates. As the design of this project is anticipated to take longer than a year, it is recommended that the flow study be completed during the rainy season with meters installed a few days in advance of a significant rain event. This information will provide the most accurate representation of the current average day, and peak wet weather flowrates to the NVLS. To avoid design schedule impacts, our team will provide an initial assessment of the current and future projected flowrates to the NVLS based on current model data which can be used for preliminary design. Information gathered during the flow study will be used to calibrate and refine the initial values which in turn will be used for final design of the proposed facilities.

Alternative Selection Criteria and Ranking

The N2W team uses a "paired comparison" tool to systematically rank alternatives for any project. This tool is especially helpful when multiple decision-makers are involved, as it allows for clear documentation and justification of decisions that can be defended to any group, both within and outside the City. Given the many factors that influence lift station alternative selection, our team has grouped them into seven categories as a high-level pro and con analysis (see Table 3). These criteria can be adjusted by the City as needed.

Table 3. High Level Pros and Cons Evaluation for Detailed Paired Comparison Alternative Analysis

DESCRIPTION	ALT 1			ALT 2			ALT 3		
	PRO	NEUTRAL	CON	PRO	NEUTRAL	CON	PRO	NEUTRAL	CON
Process robustness	Sensitivity to critical parameter, ability to handle existing and future flow, ability to expansion, etc.	Close to WWTP				Limited Space		More space /long distance to WWTP	
Operability and flexibility	System startup/shutdown, flow range coverage, efficiency, ease of maintenance, and operation, etc.		Moderate space			Limited Space	More space available		
Capital Cost	Pump cost, piping cost, valve cost, building cost, electrical drive and panels, generator size and cost, etc.	Lowest depth and shorter pipeline			Moderate station depth/pipeline				Highest depth/long pipeline
System footprint	Pump and flowmeter laying length, hydraulic requirement, building size, etc.		Moderate space			Limited Space	More space available		
Operation and maintenance cost	Electricity cost, system replacement, building HVAC, pump and valve removal, etc.	Lowest/low pump HP			Moderate/medium pump HP				Highest/high pump HP
Environmental Impact	Pump and generator noise, pumping system height, building aesthetics, etc.		Short Residence Proximity		Moderate Residence Proximity		Long Residence Proximity		
Constructability	Design and construction schedule, permitting, flexibility, system tie-in, existing system remain in operation, etc.	May open cut for gravity sewer			May tunneling for gravity sewer				Bridge or tunneling for forcemain

After developing these criteria groups and receiving input from the City, we will perform the paired comparison analysis. This process compares two criteria at a time, determining which is more important, less important, or equally important. This simplification helps reduce ambiguity in weighting. For example, if Criterion A (Process Robustness) is less important than Criterion B (Operability and Flexibility), Criterion B will be given more weight. If it is hard to choose between two criteria, both can be listed together (e.g., A/B). A formula is then used to assign relative weight factors to each criterion.

	Criteria	Priority							Weight
		A	B	C	D	E	F	G	
A	Process Robustness	A	A	A	A	A	A	A	29%
B	Operability and Flexibility		B	D	E	B	G		10%
C	Capital Cost			D	C	C	G		10%
D	Operation and Maintenance Cost				D	D	D		24%
E	System Footprint					E	E		14%
F	Environmental Impact						G		0%
G	Constructability								14%

Figure 2. Proposed Alternative Selection Criteria Paired Comparison

Figure 2 shows an example of this comparison and the relative weights we have developed for the project. This example demonstrates how a systematic approach helps in evaluating and selecting alternatives. Each alternative is scored on a scale of 1 to 5 for each criterion. These scores are multiplied by the respective weight and then summed to determine the best alternative. The alternative with the highest total score will be recommended for detailed design. Once the City and N2W agree on the lift station alternatives, we will finalize the paired comparison analysis and select the best option to meet the City's goals.

Pipeline Design Considerations

Gravity Sewer Challenges

The NVLS is the terminus of the gravity collection system which is treated at the SLRWRF. To provide sufficient fall for the upstream portions of the collection system, the existing 30-inch VCP trunk sewer required a deep installation (approximately 16 feet below ground surface (BGS)). As a result, the existing wetwell of the NVLS is approximately 23 feet deep to provide sufficient storage and elevation of water over the suction lines of the pumps. Discharge from these pumps combines into a single header which then connects to a dedicated forcemain. This forcemain crosses the Pilgrim Creek Channel (PCC) utilizing a pipe bridge, then traverses the SLRWRF site and discharges into the headworks of the plant. Other than the main 30-inch trunk sewer, two additional gravity lines currently connect to the NVLS. The first is an 8-inch local sewer currently plumbed into the emergency overflow basin of the NVLS, which has led to maintenance issues as this pipeline includes a significant amount of rags that collect in the emergency basin due to the configuration of the basin and the hydraulics of the system. The second is a 6-inch PVC local plant sewer which provides service to the Administration Buildings of the SLRWRF. Both sewers and the trunk main will need to be plumbed to the wetwell of the new NVLS as shown in Appendix E.

Site Alternatives 1 and 2. Both Alternatives 1 and 2 place the pump station on the north side of the existing PCC and will require installation of a new gravity pipeline between the existing collection system on the south side of PCC to the wetwell on the north side. This trunk line will need to intercept the existing collection system at its current deep elevation and provide sufficient slope between this intersection and the proposed wetwell. This trunk line will need to be installed with a minimum slope of 0.40 percent (%) per the City's design standards. The local gravity sewer currently plumbed into the emergency overflow basin of the NVLS will also need to be connected into the gravity main before it crosses the PCC. The local plant sewer will be connected into the wetwell

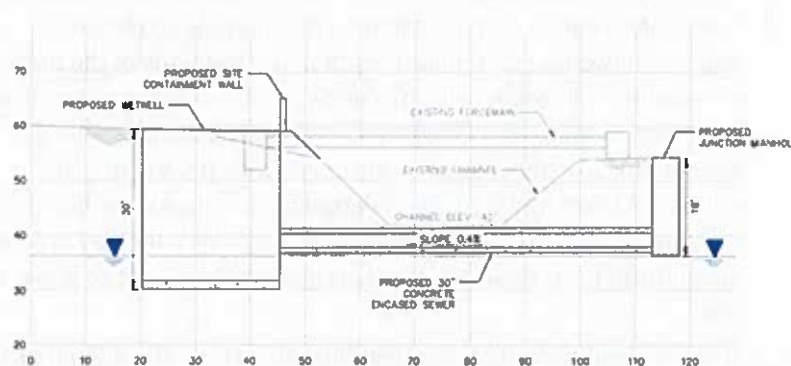


Figure 3. Proposed Wetwell and Gravity Trunk Section View

on the north side of the PCC and will not require a channel crossing. Given the information provided in the RFP, the recommended profile for the new trunk main under the channel is presented in **Figure 3**.

As shown in **Figure 3**, installing the new gravity trunk sewer beneath the existing PCC is feasible given the following parameters:

- The proposed sewer will be installed with a structural concrete encasement across its entire length from the proposed junction manhole on the south side of the PCC to the new wetwell on the north side of the PCC.
- This concrete encasement will be fully structural and will be integrated into the design of the new PCC floor slab to be reconstructed as part of the channel repairs.
- The new sewer will be installed with a 0.40% slope and 1-foot minimum will be provided between the PCC invert and the proposed crown of the pipeline providing sufficient space within the concrete encasement for required structural reinforcement.

This alignment will allow the proposed trunk main to be installed above anticipated groundwater level, which will significantly reduce the costs and risks associated with dewatering. The groundwater level will likely have seasonal fluctuations requiring installation during the dry season to limit the amount of dewatering required. Although the pipeline is anticipated to be constructed above groundwater, the proposed pump station structures will likely be installed below groundwater which is addressed later in our approach.

To facilitate open cut installation of this pipeline across the PCC the channel will need to be isolated and incidental flows will need to be diverted around the proposed construction likely utilizing a temporary cofferdam and temporary stormwater bypass pumps. This construction will need to be completed during the dry season to limit the required bypass operations for the channel. This season of construction is consistent with lower groundwater levels which will be ideal timing for installation of the trunk sewer across the channel. If sequenced correctly, the open cut installation of the trunk main could be completed in less than two weeks limiting the required duration of channel bypass. Temporary repairs to the channel could be utilized during this phase of construction as this section of the channel will need to be removed and replaced after the existing forcemain is demolished as described later in this approach.

Site Alternatives 3. Although Site Alternative 3 provides the most room for construction and the least amount of anticipated conflicts during installation of the pump station and associated structures, it offers the following additional challenges:

- An additional approximately 550 linear feet of gravity sewer will be required along North River Road to connect the existing sewer system to the proposed wetwell location. At a minimum slope of 0.40%, installation of this additional pipeline would require an additional two feet of required depth at the terminus of the trunk sewer. Although seemingly not significant, the additional two feet of depth required to install the trunk sewer would likely require a substantial amount of dewatering to ensure a dry trench. The additional effort required for dewatering combined with the effort and risk associated with installing this large diameter gravity sewer along North River Road would have significant impacts to project costs.
- There is significant utility congestion within North River Road as the City and other agencies maintain various gravity sewers, a sewer forcemain, a recycled water main, a potable water main, natural gas lines, and underground high voltage electrical. The required trunk sewer extension would need to parallel and cross these facilities to reach Alternative Site 3. Installation of a gravity sewer at depths



exceeding 18 feet, while maintaining the integrity of the trench and surrounding utilities, would be extremely difficult, if not impossible, due to the likelihood of groundwater.

Trenchless Installation Options

N2W possesses a significant amount of experience designing trenchless installations of both gravity and pressurized pipeline installations. Three trenchless methods are common for installation of pipelines, including Horizontal Directional Drilling (HDD), Jack and Boring, and Microtunneling:

- HDD would be feasible for installation of an inverted siphon beneath the PCC. Inverted sewer siphons offer a host of potential maintenance and odor issues, however. These issues combined with the laydown area, size of the casing required to host a 30-inch carrier, and cost of installation due to this size would likely make this alternative infeasible for the City.
- A boring could be completed beneath the PCC, however, to avoid potential conflicts with the existing channel bottom the large steel casing, the alignment would likely be forced below the groundwater table making this installation impossible without significant dewatering efforts and additional risks.
- Microtunneling is a feasible option for installation of the trunk sewer. This method allows for precise installation of a carrier pipe. Design considerations for the shoring systems and the selected microtunneling boring machine allow for installation below the groundwater table. Although sufficient room exists at all three sites for the required entry pit (approx. 20 feet x 40 feet) we do not believe sufficient room exists within North River Road for a retrieval pit (min. 10 feet x 10 feet) without significant risk of damaging or undermining existing utilities. We believe that this increased risk coupled with the required duration of installation, and cost of construction makes this alternative unattractive when compared to installation utilizing open cut methods.



During the alternatives analysis phase of the project, N2W will evaluate all identified alternatives and compare feasible construction methods for each of the proposed facilities and provide the pros and cons of each alternative with associated construction risks and costs. If it is determined that trenchless installation of the proposed trunk sewer is the most appropriate method of construction, we possess the expertise to ensure a successful project. However, based on our initial review of the project and the proposed site alternatives we believe the open cut installation of the gravity sewer is the most appropriate and cost-effective installation method for this project.

New Forcemain

The existing NVLS was constructed with a 20 inch ductile iron forcemain which crosses the PCC utilizing a steel pipe bridge. Once crossing the PCC the forcemain transitions to PVC and then traverses the SLRWRF site until it discharges into the headworks of the plant. In 2018 an injection nozzle installed on the forcemain just north of the pipe bridge failed, discharging raw sewage which eroded the earthen slope, damaged the north wall of the PCC, and undermined the northern concrete footing of the forcemain pipe bridge which caused it to settle and put stress on the pipe bridge and forcemain. As part of this project, a new forcemain will be designed which connects the new NVLS to the headworks of the SLRWRF. N2W will work with the City to evaluate and determine the most appropriate material type and alignment of this proposed forcemain. The proposed locations of Alternatives 1 and 2 are advantageous as they remove the necessary pipe bridge crossings for both the plant gravity sewer and the NVLS forcemain over the PCC eliminating future risk of failure for these facilities. If Alternative 3 is selected, a new pipe bridge will be designed to carry the new forcemain over the PCC enroute to the plant headworks.

Pilgrim Creek Channel Repairs

As stated previously, the existing walls of the PCC near the NVLS were damaged during the failure of the forcemain and will need to be repaired as part of this project. Portions of this damaged section will be removed as part of the open cut installation of the new trunk sewer. However, it is recommended that the open cut installation of the gravity sewer main beneath the channel be completed independent of the proposed channel repairs. The proposed sequence of construction allows for the decommissioning of the existing NVLS and removal of the existing pipeline crossings over the PCC prior to construction of channel repairs:



- Installation of the new dry pit, wetwell, and emergency overflow basin
- Concurrent installation of the gravity trunk line beneath the PCC (to be completed during the dry season)
- Installation of the new forcemain and connection piping
- Installation of the pumps, mechanical piping, and electrical equipment
- Startup and commissioning of the pump station and forcemain
- Transition of influent sewer from the existing NVLS to the new trunk sewer
- Decommissioning and demolition of the existing NVLS
- Demolition of the forcemain pipe bridge and reconstruction of the damaged portions of the PCC

Channel repairs are recommended to be constructed after the existing NVLS is decommissioned and the existing forcemain can be demolished. It is also recommended that these repairs be completed during the dry season to limit required channel bypassing facilities.

Dewatering Concerns

As stated previously, the proposed gravity pipelines will be designed to avoid installation below the anticipated groundwater level if Alternatives 1 or 2 are selected. Dewatering may be required to ensure a dry trench during installation, but these efforts are anticipated to be minor. The lower portions of the excavations required for the proposed wetwell, drywell, and emergency overflow basin are anticipated to be below the groundwater level and significant dewatering operations will be required to ensure a dry excavation. Multiple construction and shoring techniques can be utilized to limit the amount of required groundwater extraction. The N2W team will provide a cost benefit analysis of alternatives to determine the most appropriate combination of shoring and dewatering methods.



Depending upon soil conditions, extraction of groundwater will likely be accomplished using either a series of vacuum wellpoints, or a regional dewatering well. Vacuum wellpoints utilize shallow wellpoint vacuum lines which are backfilled with gravel. A vacuum is applied to the common header and groundwater within the wellpoint is extracted which lowers the groundwater level to the suction point of the well. A regional dewatering well utilizes a submersible pump installed within a temporary well casing which lowers the surrounding groundwater in the shape of a cone called a drawdown curve. N2W will work with NOVA, our Geotechnical Engineer, to determine the suitable method for groundwater extraction and design our dewatering and shoring specifications around the anticipated dewatering method.

Disposal of groundwater into a receiving water body such as the PCC is regulated by the San Diego Regional Water Quality Control Board (Regional Board) through their basin specific National Pollutant Discharge Elimination System (NPDES) permit. The PCC discharges into the San Luis Rey River which is considered a receiving water body connected



to an estuary. Estuaries have the most restrictive limitations on discharge constituent concentration. If constituents of concern can be economically removed, treatment facilities may be incorporated into the dewatering design to facilitate discharge into the PCC. If the treatment options become cost ineffective, removed groundwater may need to be discharged into the SLRWRF for treatment prior to disposal. N2W has extensive experience dealing with groundwater extraction and disposal and will work with dewatering contractors and the Regional Board to determine the most cost-effective solution for construction dewatering while adhering to the City's current and future required permits through the Regional Board.

Construction Considerations in Groundwater

The N2W team has extensive experience designing facilities below groundwater and we understand key design elements are required to ensure long term reliability of these facilities. Installation of reliable waterproofing protects concrete facilities installed below groundwater from potential corrosion due to corrosive soils and infiltration of groundwater into steel reinforcement. Appropriately designed and installed waterproofing also eliminates infiltration of groundwater into the wetwell, drywell, and emergency overflow basin of the proposed lift station which would contribute to additional sewage flows or maintenance issues for City staff with the drywell. In our experience, investing in a robust waterproofing system which is installed under the close supervision of a competent inspector, pays dividends in long term maintenance and reliability of below water structures. Our design will include waterproofing methods which will provide the City with long term reliability of the new NVLS.

Of the three alternatives presented in the RFP, our preliminary evaluation has determined that **Alternative 1 provides the most feasible and cost effective solution for the project as presented**. As such, our design fee, schedule, and design assumptions for the required level of effort have all been based upon this alternative as the selected site for construction. However, as requested in the RFP, N2W will provide a comprehensive evaluation of the presented site in concert with the City to determine the most appropriate design alternative which meets the needs and budget of the City.

Collaborative Design

At N2W, we strongly recommend that the City's operations staff be actively involved early in the design process. While we understand that time constraints and limited technical expertise may sometimes hinder operators from fully reviewing engineering drawings and specifications, their input is crucial for a successful project. Operators are experts in facility management, but they may not always have the time or resources to evaluate designs in depth. To ensure meaningful feedback, N2W encourages the City's operations team to engage closely with the project, and we support this involvement by integrating our own operations and maintenance specialists into the design process. This approach ensures the City's operations staff receives the necessary support to contribute effectively to the project's success.

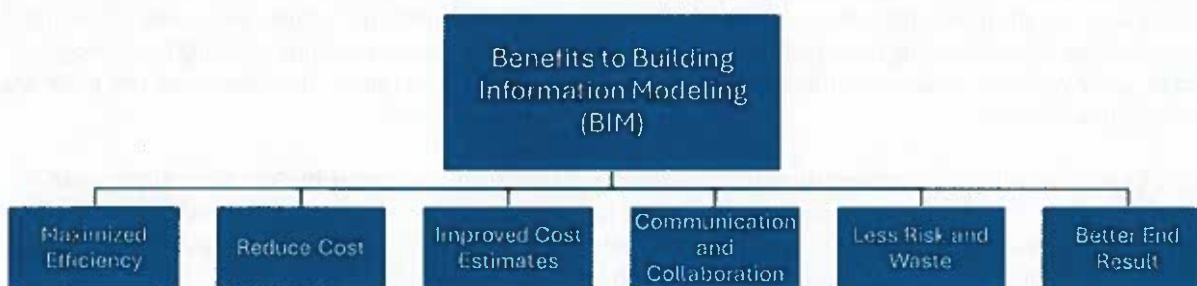


Figure 5. Benefits to BIM

We also use advanced technologies like Building Information Modeling (BIM), as shown in Figure 5, to create interactive project drawings, allowing operators to visualize the design and provide better input. Additionally, we facilitate workshops and review sessions led by our operations experts to gather feedback early and ensure that the

design aligns with operational needs. This collaborative approach helps to identify potential issues before they arise, ensuring a smoother transition from design to construction and ultimately, operation, while enhancing the overall effectiveness and efficiency of the project.

Early Value Engineering and Design-to-Budget Approach

Value engineering in sewer lift station design is a systematic approach focused on maximizing project value by analyzing its functions and finding ways to reduce costs without sacrificing quality, performance, or safety. **Our goal is to enhance both the efficiency and cost-effectiveness of the City's lift station while maintaining or improving its functionality and meeting all regulatory standards.** We have carefully reviewed the RFP and identified several value engineering items for the City's consideration shown in **Table 3**, which we plan to implement in our design.



Our approach aims at ensuring cost certainty within the current funding parameters. Although this is not a progressive design-build project, we recommend implementing a design-to-budget approach to effectively manage overall project costs. The following steps are crucial for maintaining this approach:

- Integrate market feedback into current budget assumptions to ensure they remain accurate and realistic.
- Clearly define the project's performance expectations at the outset.
- Establish a baseline estimate as early as possible during the design phase, ideally within the PDR.
- Align on any potential scope enhancements early in the process to avoid unforeseen cost escalations.
- Continuously monitor and track decisions to ensure alignment with the design-to-budget framework.



As part of this process, we will facilitate exercises to clearly define the City's performance expectations. These expectations will then be incorporated into the procurement documents, ensuring that future bidding processes are fully informed and can propose innovative solutions to meet the desired project outcomes. In a design-to-budget scenario, it is important that the designer has the opportunity to introduce innovative solutions. During the conceptual design phase, N2W will work to assess and refine these innovative solutions to ensure they align with the project's goals and desired outcomes.

Upon notice to proceed, the N2W project team will **focus on establishing an initial budget that aligns** with the defined scope of work. This budget will serve as the target for both price and scope within the design-to-budget framework. Once the baseline scope and budget are established, both the project team and City will need to review and adjust them regularly. The project cannot advance from the baseline estimate to the final design phase until there is full alignment between the scope and budget. After this initial alignment, the project team will begin evaluating potential additions or changes to the scope, taking into account their impacts on the overall budget. At this stage, evaluations will include not just constructability but also life-cycle costs, operability, maintainability, durability, and sustainability. This entire process will be carefully tracked, with all decisions documented to ensure clear accountability and alignment with the design-to-budget framework.

Understanding of Project Cost, Schedule, and Cash Flow Enhances Project Delivery

The N2W team has a proven track record of providing accurate construction cost estimates that align with the range of bids from qualified contractors on similar projects to the one proposed. We will develop a comprehensive construction cost estimate for City based on our understanding of the project and the design. This estimate will cover the Construction Specifications Institute (CSI) Divisions 1 through 16, including general requirements, site work, concrete, masonry, metals, thermal and moisture protection, finishes, specialties, equipment, mechanical, electrical, and instrumentation. It will include detailed quantity takeoffs, unit prices, labor, and material costs for installation, as well as subtotals for contingencies, mobilization and demobilization, insurance, bonding, contractor profit, general conditions, and escalation, based on the projected construction schedule and local cost index trends. For your consideration N2W has developed a construction cost estimate for **Alternative 1** as shown in **Appendix F**.

Our approach also includes the development of a detailed project schedule and cash flow analysis, which will be integrated into the Preliminary Design Report (PDR) to support the City's financial planning. The N2W team is committed to meeting the project's expedited timeline. The detailed schedule included in this proposal reflects our creative project implementation strategy. As outlined in our schedule and preliminary cost estimate, we will conduct a cash flow analysis for both the design and construction phases, allocating costs to specific tasks based on the detailed project schedule. This model will help City optimize the schedule, manage cash flow, avoid delays, minimize change orders, and mitigate risks. Additionally, it serves as a value engineering tool to evaluate design alternatives. Proposed value engineering items will be reflected in the construction cost estimates and life cycle analyses, using the cost estimate and cash flow model.



PROJECT WORKFLOW

Master deliverables list

Schedule tracking with Microsoft Project

Budget tracking with QuickBooks and Excel

Constructability Review from the Start

A constructability review is essential for project success but is often overlooked or delayed, leading to costly delays and challenges. At N2W, we prioritize this review from the start. Unlike traditional reviews at the end of the design phase, our process is ongoing, involving construction managers early to identify potential issues and inefficiencies. Their practical insights on materials, methods, sequencing, labor, and safety help refine the design and improve construction efficiency.

This early collaboration allows us to streamline workflows, reduce delays, and ensure the design is practical for the field. We also assess site conditions, access, material delivery, and other logistical factors to ensure the project is executed efficiently and cost-effectively.

In short, N2W's constructability review is a continuous, collaborative effort that prevents problems and improves efficiency, ensuring the design meets technical and practical goals for a smoother, more successful project.

Checklist

Constructability Review Template

Section 1 - Constructability Assessment

Deliverables:

- Scope overview statements
 - The project goals for the plant and methods for achieving them.
- Work scope list
 - Major work items such as heavy earth moving and duct removal and replacement.
 - Visual aids (pictures, model shots, drawings) for each project phase shown in sequence.
- Discussion of significant challenges associated with scope items
- Summary statements
 - **Safety:** Normal means and methods, including special project-specific considerations.
 - **Scope:** Typical scope items, means, and methods, with additional considerations.
 - **Quality:** Standard procedures and any unique quality requirements.
 - **Risk:** Common risks and unusual risks requiring mitigation strategies.

A Pre-qualification Process to Select Potential Bidder is Critical

The procurement method to select a contractor is oftentimes referred to as a “race to the bottom.” However, the risks associated with a low bid contract procurement can be mitigated by developing a pool of potential bidders that can show a history of successful completion of projects of similar nature and complexity. N2W will work with City to enhance their pre-qualification process to fully vet potential bidders.

The Southern California labor market is extremely tight. The availability of competent tradespeople is limited in this robust construction market. A tight labor market is a risk that has potential negative impacts on schedule, quality, and safety. In such markets, N2W has learned that constructability of design and labor availability are the key elements in resolving this risk. A careful pre-qualification process, as shown in **Figure 4**, will help identify the firms and their potential subcontractors who have sufficiently available tradesmen to meet the schedule KPIs for the project.



Figure 4. Pre-qualification Process

Local Experts for Environmental Assessment and Permitting

N2W has teamed with Dudek to prepare an environmental technical analysis and a Mitigated Negative Declaration (MND) for the project. Results of the technical analyses will be included directly within the MND, with supporting documentation included in appendices. The technical analysis is anticipated to include:

- An Air Quality and Greenhouse Gas Assessments
- A Cultural Resources Inventory Report including Assembly Bill 52 Coordination
- A Noise Technical Report
- A Biological Resources Report

This project includes the replacement of an existing facility which typically allows the City to file a Notice of Exemption (NOE) with the State. However, because of the proposed footprint, impacts to the PCC, and expansion of the pump station’s capacity, this project will likely require development of an MND to meet the requirements of the California Environmental Quality Act (CEQA). Our team will develop the design to limit potential impacts where it is feasible to limit environmental mitigation and monitoring requirements and reduce project costs. Other potential permits may include **building permits, air permits permit and/or Storm Water Pollution Prevention Plan**. Our team has experience navigating these permitting requirements with specialized environmental consultants to support your permitting needs.

Successful Funding Approach

N2W’s team specializes in evaluating funding and financing options, assisting with grant and loan applications, and supporting compliance monitoring of funds. Each funding opportunity has specific program goals, objectives, and eligibility requirements. We recognize that the needs and available funding sources for small and large communities can differ significantly, so we tailor our evaluations and assistance to meet the unique needs of each client. We also recognize the City’s focus on identifying grant opportunities from state and federal agencies.

We have successfully helped clients secure millions of dollars in funding and completed numerous funding evaluations between 2020-2025. **Our funding experts are highly familiar with these programs and are experienced in meeting the detailed expectations of funding agencies.**

Where Have We Done This Before?

The N2W team successfully prepared comprehensive application packages for low-interest funding through the Clean Water SRF for the following Agencies:

- City of Banning WWTP
- City of Gonzales WWTP
- Crestline Sanitation District

Project Management and Project Controls Approach

Constant and effective communication between the City and the project team is a key element to our proven, standardized approach for effectively managing a multi-disciplinary effort. We develop a thorough understanding of client expectations and timeline, working together so that all responsible parties understand the issues and solutions offered. Other elements of our project approach include:

Continuous & Clear Communication. Our project manager, **Greg Guillen, PhD, PE**, facilitates a continuous flow of information, data, instructions, and guidance to the right people at the right time. Maintaining this flow assures resources are expended efficiently, wasteful rework minimized, and adherence to schedule milestones. We achieve efficient communication by:

- Regularly calling or emailing the City's project manager to discuss project milestones, activities, and potential issues.
- Holding regular project team meetings with key project staff (including subconsultants).
- Updating, as necessary, the project description, schedule, work progress reports, and inventories of available data so that all team members are aware of information that may affect their work products and schedules.
- Meeting with the City staff at design milestones and other strategic junctures.
- Diligent documentation of issues, action items, and decisions.
- Monthly progress reports to the City documenting work completed during the billing period, anticipated work for the upcoming billing period, and comments on project budget, schedule, or status, if applicable.



COMMUNICATIONS

Kickoff meeting to establish milestones/develop strategy

Evaluation of existing data

Consistent reporting and direct access to PM

4 Project Organization and Key Personnel

Our proposed team combines engineers and technical staff from N2W, Kelsey Structural, Dudek, and Wright Engineering. N2W provides expertise on a wide range of water infrastructure projects, specifically those that involve lift stations, production, distribution, and permitting. The strengths of our team will provide the City with the best possible project. Refer to **Table 5** for detailed information regarding **Key Personnel and Subconsultants**. Proposed N2W staff **are located in the San Marcos and Irvine offices**. Full resumes for all project team members, demonstrating their qualifications and experience, are included in **Appendix B**.

Organizational Chart

As illustrated in **Figure 6**, Project Organization Chart, N2W has organized the team to best suit the City. **Greg Guillen, PhD, PE**, will serve as the Project Manager, overseeing the development and execution of the project, tracking budget and schedule, and serving as the main point of contact for the City's project manager and staff. He has over 20 years' experience managing and designing water and wastewater treatment process facilities and has built a reputation for delivering high-quality work on time and within budget. Greg understands the importance of good communication, thorough documentation, being flexible and solution-oriented, and fostering a collaborative environment for each member of his team. He will facilitate the flow of information amongst the team and with the City's project manager and staff.

Ching Wei, PE, will serve as the Principal in Charge. Mr. Wei is N2W's Chief Engineer with more than 20 years of engineering consulting experience focused on developing creative and sustainable solutions for public infrastructure. Mr. Wei will ensure that all needed resources are brought to your project.

Providing management of Quality Control is **Jamal Awad, PhD, PE**. He has 33 years' experience specializing primarily in wastewater treatment facilities and is an industry leader with demonstrated skills in improving engineering planning and design processes.

James Wang, PE will be the Lift Station Design Manager for this project. Over the last 24 years, James has been involved in 100+ design projects in various civil and environmental engineering fields. He will ensure the proper flow of all document review prior to submission to the City.

Justin Scheidel, PE will serve as the Civil/Pipeline Design Manager developing the alternative analysis for the project and leading the subsequent design effort. Mr. Scheidel has 21 years of experience working with public entities on similar water infrastructure projects.



Figure 6. Project Organization Chart

Staff Availability

The N2W team presented in this proposal is fully committed and available for this contract. With current workloads ranging from 50% to 80%, our selected team will promptly proceed with this contract. Team members can commit substantial effort (up to 100%) to the contract when necessary for a project's success.

N2W can attend meetings, advise the staff, prepare and present reports, and assist with any task pertaining to the scope of services. We have a flat internal structure, meaning that our deep bench of senior staff, skilled managers, technical experts, and engineers are available to support Project Manager Greg Guillen. Internally, N2W hires and retains the most qualified specialists by caring for our professionals. As a result, we have low staff turnover and high career longevity, providing the City with a team that will stay with this project throughout its lifespan.

Table 4 includes the availability and ability of our key team members to complete the project in the proposed timeline. N2W understands that all key personnel will be available to the extent proposed for the project's duration, **acknowledging that no person designated as "key" to the contract shall be removed or replaced without the prior written concurrence of the City.**

Table 4. Staff Commitment and Resources

Team Member Name	Role	Availability	Commitment to Other Work
Greg Guillen, PhD, PE	Project Manager	50%	50%
James Wang, PE	Lift Station Design Manager	75%	25%
Justin Scheidel, PE	Civil/Pipeline Design Manager	75%	25%
Ching Wei, PE	Principal in Charge	20%	80%
Jamal Awad, PhD, PE	Quality Control	20%	80%
Iris Jimenez, EIT	Project Engineer	75%	25%
Matt Stone, PE, SE (<i>Kelsey</i>)	Structural Engineer	55%	45%
Wade Williams, PE (<i>Wright</i>)	Electrical Engineer	55%	45%
Elizabeth Caliva, PE (<i>Dudek</i>)	Environmental Engineer	55%	45%
Li Wang, PLA (<i>LCW Group</i>)	Landscape Architect	55%	45%

References

For nearly 30 years, N2W has completed various pump station and pipeline upgrades projects. Our in-house staff have extensive experience with individual project phase components, and we have successfully delivered similar design projects from initial planning through construction. For example, N2W recently completed the Oceanside Mesa Garrison Lift Station (OMGLS), a project that involved designing and constructing a new lift station to transport sewage from the City's central area to the San Luis Rey Water Reclamation Plant. OMGLS is a wet-pit dry-pit lift station featuring hydraulic modeling, site grading, and an overflow basin. This project further strengthened N2W's experience in collaborating with the City of Oceanside on infrastructure initiatives, including the North Valley Lift Station. The projects in this section highlight our firm's tradition of problem-solving for public agencies, similar to the City's project. **N2W is proud of our successful client relationships and urges you to contact our references.**

Team Qualifications / Project Management



GREG GUILLEN, PHD, PE
PROJECT MANAGER

Education & License(s)

PhD/MS Civil Engineering
BS Environmental Engineering
Professional Civil Engineer
CA No. 83897

Qualifications

- Over 20 years' of experience in water, wastewater, and odor control systems, permitting, water resources planning
- Project experience encompasses studies through detailed design
- Strong skills and proven record in tracking, monitoring, team delegation, deliverable quality assurance, engineering guidance, accounting and subconsultant coordination

Related Experience

- Project Manager for City of Redlands , Well 38 and 39 Perchlorate and PFAS Removal System
- Technical Lead for OMWD Odor Control and Headworks Upgrade
- Lead Odor Control Engineer for OCSan Bay Bridge Pump Station Design
- Lead Engineer for OCSan Collection System Odor Control Evaluations

Office Location: San Marcos, CA



JAMES WANG, PE
DESIGN MANAGER

Education & License(s)

MS/BS Civil Engineering
Professional Civil Engineer
CA No. 81123

Qualifications

- Over 28 years' of senior management specialized in water/wastewater and infrastructure projects.
- Leader in improving planning and design mechanisms to construct more reliable facilities with integrated operations and maintenance support.
- Strong civil/mechanical designer and process expertise in plant hydraulics, pump systems, and various process equipment

Related Experience

- Design Manager, City of Oceanside El Corazon Lift Station and Pipeline Progressive Design Build
- Design Manager for City of Corona, Mangular Blending Facility and Pipeline
- Design Manager for IEUA Intermediate Pump Station
- Design Manager for IEUA San Bernadino Sewer Lift Station

Office Location: Irvine, CA



JUSTIN SCHEIDEL, PE
DEPUTY / PIPELINE MANAGER

Education & License(s)

MS/BS Civil Engineering
Professional Civil Engineer,
CA No. 82058

Qualifications

- Over 21 years' of experience specializing in water infrastructure design including booster pump stations and pipeline infrastructure.
- Leader in detailed design and layout, civil calculations and analysis, equipment selection, and construction.
- Strong civil/mechanical designer and process expertise in plant hydraulics, pump systems, and various process equipment

Related Experience

- Project Manager for TVWD, Colladay Reservoir Project,
- Project Manager for TVWD, Dawson Canyon Reservoir Design
- Principal In Charge for City of Chino, Benson Reservoir Replacement Project
- Project Manager for Ramona MWD, Snows, Tank 4, ID-5, SDCE Tank 1, and the West End Reservoir Rehabilitation

Office Location: San Marcos, CA



Additional Key Staff and Subconsultant Qualifications

Table 5. Key Staff and Subconsultants

Name and Contact information	Role and Qualifications
Agata Bugala, EIT <i>BS Environmental Engineering</i> <i>Engineer-in-Training, No. 173501</i>	Senior Engineer Located in San Diego office, Agata is our senior engineer with technical knowledge of many water and wastewater treatment facilities in California. Agata has led numerous planning projects, including a master plan with process evaluation, CoFA analysis, capacity assessment, and operations, detailed design completing it efficiently and within budget. Her expertise in process engineering ensures precise and timely project delivery.
Jamal Awad, PhD, PE <i>PhD Civil & Environmental Engineering</i> <i>BS/MS Civil & Environmental Engineering</i> <i>Professional Civil Engineer, CA No. 50719</i>	Quality Control and Safety Jamal is sought after nationally to support creative implementation of engineering solutions and innovative technologies assessments. An example of Jamal's leadership and technical skills is his work as a member of the Blue-Ribbon Panel that assisted the California Department of Public Health (DDW now) in the development of guidelines for Title 22 UV disinfection . Jamal has extensive knowledge as a technical advisor and can provide oversight and the attention to detail required when monitoring the safety and quality control standards for a project of this magnitude.
Hunter Markle, EIT <i>BS Civil Engineering</i> <i>Engineer-in-Training, No. 180501</i>	Civil Engineer Hunter Markle is a civil engineer with experience as a project engineer specializing in engineering design of water/wastewater infrastructure and capital improvement projects. Hunter has experience developing preliminary design technical reports; performing hydraulic analyses of water/wastewater systems, hydraulic sizing pump stations, and pressure-reducing stations (PRs) ; designing pressurized and gravity flow systems; designing potable and non-potable reservoirs; and designing and preparing plans and specifications for public agencies. He specializes in conveyance pipeline, reservoir, pump station and mechanical piping design .
Guy Kelsey, SE, PE Kelsey Structural <i>MS/BS Structural Engineering</i> <i>Professional Structural Engineer, CA No. 6099</i> <i>Professional Civil Engineer, CA No. 77675</i>	Structural and Architectural Engineer Mr. Kelsey has over 15 years of structural engineering experience encompassing both new and retrofit projects for various types of structures including infrastructure, military, commercial, water and wastewater facilities . Mr. Kelsey has performed extensive structural design, seismic analysis, structural evaluation and condition assessments for existing buildings, water and wastewater treatment facilities, reservoirs and conveyance structures throughout California. He has a passion for creative engineering design while providing efficient, cost-effective solutions for his clients.
Matt Stone, SE, PE Kelsey Structural <i>MS/BS Structural Engineering</i> <i>Professional Structural Engineer, CA No. 6183</i> <i>Professional Civil Engineer, CA No. 78488</i>	Structural Engineer Mr. Stone is a currently licensed California Structural Engineer with over 15 years of project management and structural design work encompassing commercial, infrastructure, water, wastewater and military projects . He has performed many complex structural and seismic designs for new and existing buildings utilizing the latest design standards and philosophies. His work has included the preparation of structural drawings, specifications, and calculation packages, project coordination and management, technical report writing, cost estimating and construction support services. He specializes in the assessment, design

**Table 5. Key Staff and Subconsultants**

Name and Contact information	Role and Qualifications
Wade Williams, PE Wright Engineering MA, Business Administration BS, Electrical Engineering Professional Electrical Engineer, CA No. 18880	<p>and retrofit of water and wastewater treatment, storage and conveyance facilities.</p> <p>Electrical Engineer</p> <p>Mr. Williams has extensive experience in electrical design for water treatment plants, water storage facilities, and all types of pumping and booster stations, wastewater treatment, site electrical industrial facilities. Williams has extensive experience in electrical design for water treatment plants, water storage facilities, and all types of pumping and booster stations, wastewater treatment, and site electrical industrial facilities. His experience includes inspections for these projects for conformance to plans and specifications, NEC conformance, and life safety issues, as well as all other construction management services.</p>
Jacob Bielefeldt, PE Wright Engineering AS Engineering Technology Professional Electrical Engineer, AZ No. 73954	<p>Electrical Engineer</p> <p>Mr. Bielefeldt is a Professional Electrical Engineer at Wright Engineering. His seventeen years experience has included projects that focus on low to medium voltage distribution for utility, commercial, and residential; power, instrumentation, and controls for water & wastewater treatment; outdoor lighting for street, area, and sports fields; building electrical plans. Experience also includes inspections for conformance to plans and code requirements as well as all other construction management services.</p>
Elizabeth Caliva, PE Dudek MS, Water Resources and Water Quality Engineering BS, Environmental Engineering Professional Civil Engineer, CA No. 64331	<p>Water Resources Engineer</p> <p>Elizabeth Caliva is a professional engineer with over 19 years' experience specializing in water, wastewater, and recycled water planning projects. Ms. Caliva has extensive hydraulic modeling experience and is proficient in several modeling software packages, the most commonly used being InfoWater, InfoSewer, and InfoSWMM by Innowyze and Bentley's WaterCAD and SewerCAD. In addition to planning studies and master plan projects, her background includes Sanitary Sewer Management Plans (SSMPs) and SSMP audits, treatment plant design, pump station design and sewer pipeline design.</p>
Alexandra Martini Dudek BA, Geography/Environnemental Concentration	<p>Environmental Analyst</p> <p>Ms. Martini has extensive experience as a grant and permitting specialist, securing funding and navigating permitting processes for water and wastewater projects.</p>
Li Wang LCW Group MS/BS Landscape Architecture Licensed Architect, CA No. 5086	<p>Landscape Architect</p> <p>Mr. Wang has over 25 years of experience in the field of Landscape Architecture in the United States and overseas. He speaks both the Chinese language and English language fluently and has a deep understanding of the design profession in the United States as well as in China. During this period, Mr. Wang has successfully directed award winning projects that include residential, urban, commercial, resort and master planning in both the United States and in China. As founder and president of The LCW Group, Inc., Mr. Wang directs the schematic, preliminary and final design functions of the office. The LCW Group is focused on a team-oriented, collaborative, service intensive approach to project design, management and implementation.</p>



6 Schedule

A detailed schedule outlining the proposed order of tasks and project milestones for both the design and construction phases is included in **Appendix E**. The schedule includes three weeks allotted for City review at each milestone.

7 Fee

Our fee proposal, broken down by task and staff hours, is submitted as a **separate document**.

8 Written Scope of Work and List of Deliverables

There are no exceptions to the written scope, and all tasks and deliverables are to be completed as outlined in the RFP. The scope of work included in the RFP is provided on the following pages with proposed additions per discussions with the City.

SCOPE OF WORK

Task 1 – Project Management and Administration

N2W will organize, coordinate, and communicate with CITY Staff in order to effectively manage the Project and solicit input from the various departments and agencies having knowledge of the CITY's sewer assets. This may include members of the CITY's Engineering, Operations, IT/GIS, Electrical, SCADA, and Planning Departments, as well as members of Rainbow Municipal Water District, City of Vista, and private developers. The CITY will determine the setting of the meeting (virtual or in-person). At a minimum, N2W's project manager and project engineer shall attend each meeting. Task 1 includes the following:

- Kick-off Meeting
- Recurring Project and Progress Meetings (Bi-Weekly to Weekly Depending on the Phase of the Project)
- Milestone deliverable meetings
- Monthly Invoices, Project Summaries, and Schedule Updates
- General Project Oversight
- Project Management Controls
- Quality Assurance/Quality Control Plan and Project Reviews

Deliverables:

- Meeting Minutes
- Invoices
- Schedules
- Progress Reports

Task 2 – Data Collection and Review

Preliminary investigations will include all efforts necessary to document existing site conditions required to complete the site alternative evaluation and design of the project. These efforts are anticipated to include (1) data collection and review, (2) field visits, and (3) utility coordination.

- **Data Collection & Review** – N2W will collect and review data for the project, including but not limited to record drawings, master plan documents, maps, operational data, CITY standard drawings and specifications, and utility as-builts for use in design and engineering of the Project.
- **Field Visits** – N2W will perform field visits of the site to review site conditions and discuss the project and project objectives with CITY operations and other members of the Water Utilities Staff.
- **Utility Coordination** – N2W will coordinate with all utilities in the project area to determine potential subsurface utilities that may impact work. Coordination will include as-built review (combined with the data collection task) and survey verification of horizontal alignment of surface features (combined with surveying and mapping task). This task also includes identifying all utility service connections that will be required for the project.
- **Potholing** – If required to determine the recommended site location, exploratory potholes will be performed to identify major utility conflicts. N2W has included 5 potholes as part of the Data Collection and Review Phase of the project.

Deliverables:

- Technical memo identifying all utilities and any conflicts that will need to be addressed during construction, including an approach for addressing each utility that will be affected by the construction of the Project. Efforts performed under Task 2 and the subsequent deliverables will be performed concurrently with Task 4.

Task 3 – Comprehensive Flow Study

The purpose of this task is to gather and review updated information on the anticipated flows to the new NVLS so that N2W will have the most up-to-date estimated peak flows for which the design capacity of the new NVLS will be based upon. Task 3 includes the following:

- **Gather and review background flow data**, zoning, and all information related to the future housing development, and agency (RMWD and Vista) connections over the planning horizon.
- **Research, analyze, and reasonably address evolving housing laws and potential for increased zoning density** in developed and undeveloped areas tributary to the lift station.

- **Research all relevant CITY planning documents** when developing flow estimations.
- **Meet with CITY Representatives and other stakeholders** to determine expected flows.
- **Develop values of average dry, peak dry, and peak wet weather flows** for existing and future buildout conditions that will be seen at the project site. This analysis should include existing flow data, as well as an analysis of all existing and proposed developments tributary to the proposed lift station. Future buildout will match the 2015 sewer master plan estimate year of 2050, unless a later date is projected in relevant planning documentation.
- **Develop the anticipated design flow criteria for pump sizing and selection of the new NVLS.**

N2W will evaluate all future flows along with conservation measures to determine the recommended design capacity for the new NVLS.

Deliverables:

- Technical Memorandum detailing the research performed, input received, and a description of the anticipated ultimate flows that will be received by the new NVLS. All supporting documentation will be included with the Technical Memorandum.
-

Task 4 – Comprehensive Site Evaluation

N2W will evaluate the three different sites the CITY has identified for the new NVLS and perform a feasibility study on the three sites. Task 3 includes the following:

- **Review all available data within CITY and County files for the three sites.**
- **Review any other available data for the three sites that N2W will identify.**
- **Propose any alternative sites that offer additional benefits not identified in the three CITY sites.**
- **Review anticipated property/easement acquisition requirements, risk analysis, biological impacts, cultural impacts, ease of transitioning lift station flows, and review of available conveyance alignments.**
- **Develop preliminary site plan analysis and exhibits.**

- **Develop a list of pros/cons for each site and provide a recommendation for which site provides the most benefits to the CITY's sewer system.**
 - **Meet with CITY personnel to discuss the pros/cons of each location and to identify a selected location for the new NVLS.**
-

Deliverables:

- **Technical Memorandum presenting feasibility study, matrix describing pros/cons of each location, site plan exhibits, N2W's recommendation for the best site, budgetary costs for each alternative, resulting site selection agreed upon by the CITY, detailed information related to the selected site.**
-

Task 5 – Permitting

Task 5 consists of the following:

N2W will identify all required permits needed to complete all portions of the scope of work contained in this RFP, as well as any permits required to complete the construction of the project.

- **N2W will provide required documentation for permits needed to complete the design and construction of the project. The CITY understands that certain permits may not be obtained until a contractor is awarded the construction of the project, and as such N2W will plan to delay the application of these permits but should plan to prepare all required documentation and complete all forms to the fullest extent prior to the contractor being identified. Once the contractor is identified, N2W will plan to continue to work with the CITY and contractor to obtain any remaining required permits.**
 - **N2W will obtain all required permits needed to complete the design and construction of the project. This includes but is not limited to any CITY, State or Federal permits, including any permits related to environmental requirements.**
-

Deliverables:

- **Any reporting, investigations, studies, correspondence, documentation, and forms required to obtain the necessary permits to complete the Project through construction. Coordination with any agencies including CITY, State and Federal**

agencies, also including any environmental agencies in order to obtain all required permits.

Task 6 – Geotechnical Services

N2W has teamed with NOVA services to perform geotechnical engineering for the selected project site. Borings for sitework are included as part of this proposal. Supplemental borings may be needed for areas where alternative construction methods, such as trenchless technologies, and/or geologic hazards or conditions dictate. Four (4) borings are included as part of the geotechnical evaluation for this project which will provide the appropriate level of information for open cut installation of the proposed pump station, gravity sewer, and proposed forcemain. The geotechnical engineering shall include but not necessarily be limited to:

1. Review background data;
 2. Site reconnaissance;
 3. Coordination with underground service alert;
 4. Potholing at boring locations;
 5. Subsurface investigation (borings);
 6. Groundwater and soil laboratory testing;
 7. Faulting, seismicity, and other geologic hazards; and,
 8. Engineering evaluations and recommendations needed to design pipelines, temporary construction, wet well, foundation design, and other improvements.
-

Deliverables:

- N2W will provide a draft geotechnical report for CITY review, and final geotechnical report.
-

Task 7 – Site Topographic Survey

N2W has teamed with the Prizm Group to provide topographic surveying of the project site. Surveying will include provision of topography at a minimum of 1-foot contours and identifying surface utility features. Aerial photogrammetry and supplemental field survey

methods shall be used. Mapping will include preparation of a base map inclusive of topography, orthophotography, surface features, landscaping, survey monuments, traffic striping, boundary (property line, right-of-way, easement), and subsurface utilities collected in U.S. Survey Feet. The survey will be prepared per CITY specified horizontal and vertical datum, based on ties to CITY survey control network monuments.

Deliverables:

- Surveying and mapping files will be provided in PDF and AutoCAD format at a scale of 1" = 20'.

Task 8 - Preliminary Design Report (PDR)

N2W will prepare a Preliminary Design Report (PDR) to summarize the findings of all preliminary investigations (Task 2 – Task 6) and identify the preliminary design criteria required for detailed design. The PDR is a critical component of this project. The PDR will provide a concise, definitive description of the alternatives evaluated and the facilities recommended for detailed design. The PDR will include a presentation of design criteria, summary descriptions of major systems, preliminary drawings (30%), and supporting information. The PDR will establish the technical framework for moving forward into the 60% project construction plans and specifications. The PDR will address the following key project elements:

- **Summarize findings of the Comprehensive Flow Analysis (Task 3).**
- **Summarize findings of the Comprehensive Site Evaluation (Task 4).**
- **Identify design criteria for all project components including:**
 - Civil
 - Structural
 - Building Mechanical
 - Process
 - Architectural
 - Electrical
 - Instrumentation & Controls
 - SCADA

- Data
- Landscape
- **Include a preliminary lift station hydraulic analysis and pumping design.**
- **Identify a new gravity main alignment to the proposed lift station and propose construction recommendations.**
- **Identify a new forcemain size and alignment from the proposed lift station to the headworks of San Luis Rey Water Reclamation Facility and propose construction recommendations.**
- **Analyze and incorporate existing pipe bridge and channel repair recommendations from as needed. N2W will include additional preliminary investigations as needed.**
- **Identify and summarize all permitting, code, and regulatory requirements.**
- **Identify construction sequencing requirements. The existing NVLS will remain in service during the transition to the newly constructed lift station.**
- **Identify risks and long-lead materials.**
- **Prepare preliminary sheet index and associated drawings for 30% design.**
- **Prepare the table of contents (TOC) for all required specifications.**
- **Prepare a preliminary cost estimate and tie it to Association for the Advancement of Cost Engineering (AACE) Cost Index.**
- **Prepare a preliminary construction schedule.**

N2W may suggest alternate site locations, site layouts, and design options but will collaborate with the CITY prior to submission of the task deliverable. The design will be advanced to 30% for the chosen alternative at this stage. The design will include optimized solutions for challenges identified in the data collection and review and evaluation phases of the Project. N2W will prepare an engineer's estimate of probable costs (EEOPC), which will identify the major elements of the project, as well as overall soft costs such as engineering, construction management, inspection, monitoring, administration, contingencies and methodology, and escalation costs for the duration of the project. N2W will prepare an engineer's estimate of probable construction time at this point which should include the time from construction bid award through the completion of the project, including time needed for procurement of long lead time equipment and materials.

Deliverables:

N2W will deliver one electronic copy (smart PDF format) of the 30% drawings and a draft Preliminary Design Report for review. N2W will also schedule a PDR Review Workshop with key Project team members within the CITY to present the findings. Upon review and incorporation of comments from the CITY, N2W will provide a final PDR and obtain approval prior to proceeding with the 60% Design level.

Task 9 – Environmental Services

N2W has teamed with Dudek to prepare the necessary site-specific environmental technical reports, CEQA documents, and obtain necessary environmental permits and approvals. An initial study and mitigated negative declaration are anticipated for the project. Dudek is responsible for determining the level of CEQA analysis needed, preparing all studies, and receiving all required CITY, state, and federal approvals as applicable. Biological, archaeological, and cultural studies will be prepared for the full extent of the proposed project area, as well as any additional analysis to support an MND. All AB-52 tribal cultural resource outreach and coordination shall be completed by Dudek in the preparation of the cultural studies.

Deliverables:

- Initial study / mitigated negative declaration document and supporting studies shall be submitted with the 60% and 90% submittals. Any subsequent CITY comments or design revisions will be included in the 100% submittal.

Task 10 – Design Services

- The design will include preparation of full plans, specifications, and engineering calculations (PS&E), supplementary reports, engineer's estimate of probable costs (EEOPC), engineer's estimate of probable construction time, and a complete set of contract documents conforming to the CITY's standard front end template, which includes a complete schedule of bid items and bid item descriptions. The design will include, but is not limited to, all drawings and specifications required for construction of the NVLS and associated improvements, and decommissioning of the existing NVLS. The design will conform to all Federal, State, and CITY of Oceanside requirements. CITY Standard Specifications and Drawings will be utilized and supplemented by additional specifications and drawings where no CITY document governs. N2W will utilize the CITY's computer-aided drafting (CAD) standards for preparation of drawings and shall prepare all drawings using the latest version of Civil3D. N2W will design in conformance with CITY stormwater

requirements, including design of low-impact development and permanent BMPs. A Storm Water Quality Management Plan (SWQMP) is anticipated to be required for this project and will be submitted as part of the permitting process with the City. Landscaping shall be designed in conformance with the City's landscape design manual. Additionally, no non-functional turf will be irrigated with potable water in compliance with California's Assembly Bill 1572.

Requirements for preliminary and final design are discussed further below:

Task 10.1 – SDGE Coordination & Electrical Design

N2W has teamed with Wright Electrical (Wright) to provide the electrical design for the project. Wright will be responsible for developing, submitting, and obtaining approval for electrical design drawings from San Diego Gas & Electric (SDG&E) to submit as part of the final bid package. This includes conducting site assessments, performing load calculations, and creating detailed system designs that comply with SDG&E standards and local codes. Wright will prepare all necessary documentation, submit the designs to SDG&E, complete and submit all applications for the new electrical service and decommissioning of the existing service at NVLS, coordinate any required revisions, and ensure final approval is obtained. All fees for new electrical service and account will be paid by the CITY.

Task 10.2 – Potholing

N2W has teamed with C-Below to perform potholing services for the project. C-Below will perform the necessary potholing required for design and identification of all conflicting underground utilities. N2W will create a detailed potholing plan to locate and map underground utilities and structures during the design phase, before construction. This includes assessing the site, reviewing existing utility maps, and designing precise potholing locations, depths, and methods. The design plan will ensure safety and compliance with regulations.

Task 10.3 – Final Design

N2W will prepare full plans, specifications, engineering calculations (PS&E), an engineer's estimate of probable costs (EEOPC) and construction time, and a complete set of front ends conforming to the CITY's standard front end template, which includes a complete set of bid items for contractors to bid on, as well as a complete schedule of values and schedule of payment descriptions for each bid item at the following design stages: 60%, 90%, 100%, and final submittal. The basis for material and equipment choices shall be made based on optimized lifecycle costs at the level of service required by the CITY and/or project/site constraints. Deliverables for each stage of design shall include six (6) full-size sets of plans, two (2) paper sets of the technical specifications, a cost estimate in

electronic format, an estimate of construction time in electronic format, and smart PDF copies of each document, as well as electronic copies of the working files in their original format (Word, Excel, AutoCAD, etc.). Smart PDF copies of the specifications will have bookmarks at each specification section and will be word-searchable. Smart PDF copies of the drawings will have bookmarks, at a minimum, at the beginning of each discipline (i.e., General, Civil, and Structural). Final plans will adequately convey the design for public bidding and construction and are anticipated to include but not be limited to the following:

- **General** – General sheets will include: title sheet; notes; abbreviations; legends; sheet index or key map; cathodic protection; hydraulic profile; traffic control; and construction staging areas.
- **Civil** – Civil sheets will include: site plans; demolition plans; grading plans; detention basin and storm drain plans; pipeline plans and profiles; hydraulic profiles; sewer bypass plans; civil details; trenchless construction details; trenchless instrument tables and details; instrumentation plans; street resurfacing plans; and other special construction.
- **Structural** – Structural sheets will include: structural general notes; abbreviations; calculations; rebar plans; and structural plan views, sections, and details.
- **Lift Station Mechanical** – Lift station mechanical sheets will include: pump design layout, sections, and details; forcemain layout, sections, and details; odor control layout, sections, and details; chemical injection layout, sections, and details.
- **Building Mechanical** – Building mechanical sheets will include: HVAC layouts; plumbing plans; mechanical equipment schedules; piping and ductwork details; and coordination with other building systems.
- **Process** – Process sheets will include: process flow diagrams; piping and instrumentation diagrams (P&IDs); process equipment layouts; process control descriptions; and chemical storage and handling details.
- **Architectural** – Architectural sheets will include: architectural floor plans; elevation views; building sections; material schedules; and interior and exterior finish details.

Task 11 – Bidding Support Services

N2W will provide bidding support services, including:

- Respond to written questions submitted.
- Prepare addenda during the bid phase.

- Attend the bid opening, tabulate and review the bids for responsiveness and conformance with contract documents, contact contractor references identified in the “Experience” section of the bid documents, and prepare a bid evaluation summary.

Deliverables:

Deliverables under this task will include responses to Requests for Information (RFIs) during bidding, the preparation of revised plans, specifications, front ends, estimates, schedules, and any bid documents and the preparation of addenda identifying all changes including a written description of all changes. Since the number of RFIs received and subsequently the number of addenda issued is directly related to the quality and completeness of the design and the bid documents prepared by N2W, N2W will not limit the number of RFI responses and addenda to be prepared during this task. Rather, N2W will list that all RFIs and addenda received during the bidding phase, as related to the documents prepared and provided by N2W, will be addressed by N2W.

Task 12 – Engineer’s Support Services During Construction

The N2W team will provide the following services during construction:

- Attend a pre-construction site meeting and additional site meetings associated with construction. N2W will attend all site meetings required to bring the project to completion. N2W will also attend the bi-weekly/weekly CITY team meetings and contractor progress meetings. The frequency of these meetings will be based on the phase of the construction of the project. Coordinate with the City to provide requested information to SDGE and other utility agencies as required during construction.
- Review submittals/shop drawings submitted by the contractor. N2W has assumed 130 submittals will be reviewed during construction which includes reviews of initial submittals, resubmittals, and “or equal” substitution requests.
- Review and coordinate with the CITY and respond to Contractor RFIs. Since the number of RFIs received and subsequently the number of responses needed is directly related to the quality and completeness of the design and the bid documents prepared by N2W, N2W will not limit the number of RFI responses to be prepared during construction. However, N2W has provided an assumption on the total number of RFI responses provided on items not related to the project design/documentation, which would include items like changes in conditions that are outside the designer’s control, unknown conditions encountered during

construction, and other changes in site or design conditions that could not have reasonably been addressed as part of the design. N2W assumes 60 RFIs will be addressed as part of this project.

- Assist the CITY and/or Construction Manager with startup, testing, and commissioning support.
- Assist the CITY and/or CM with the project closeout, perform a final walk-through, and assist with developing a punch list.

Task 13 (Optional) – Prepare North Valley Lift Station Demolition Plans

N2W will prepare all plans, specifications, and contract documents required for the complete demolition of the existing NVLS. This optional task is separate from the NVLS decommissioning plan, which is a required scope item. N2W will provide:

- A complete demolition plan in the 30%, 60%, 90%, 100%, and final submittal for demolition and removal of all existing NVLS buildings, facilities, piping, mechanical, electrical, and all relevant appurtenances that will no longer be utilized when the proposed NVLS is in service. All other tasks in this RFP that are relevant to this item will be included, such as permitting, surveying, geotechnical services, environmental services, and bidding and construction support services.

Deliverables:

- The demolition submittal shall include full-size 24" x 36" electronic plans, technical specifications in both PDF and Word format, electronic submission of the engineer's estimate of probable cost, PDF and MPP format submittal of construction time estimates, and an electronic copy of all final documents in both their original format (AutoCAD, Excel, and/or Word) and in smart PDF format.

Task 14 (Optional) – Grant Funding Assistance

N2W has teamed with Dudek to provide research and identify available sources of grant funding assistance relevant to this project. Funding opportunities may include programs from state and federal agencies. The CITY will be responsible for submitting completed applications and post-award tracking and reporting as required. Dudek will:

- Identify grant funding opportunities
- Perform a review of specific project qualification requirements
- Prepare grant application package materials and exhibits (assume up to 2 sources of grant funding are identified and pursued)

Deliverables:

- Technical memo identifying grant funding sources, project qualification requirements, potential grant dollar amounts, and feasibility of award.
 - Grant application package materials, exhibits, and project descriptions
-

Task 15 (Optional) – Groundwater Extraction and Quality Assessment

N2W has extensive experience dealing with groundwater extraction and disposal on similar projects. We assume that one of the following three alternatives for groundwater disposal will be employed for this project:

- Disposal into the existing NVLS to be pumped into the SLRWRF
- Disposal into the SLRWRF Land Outfall without treatment
- Disposal into the Pilgrim Creek Stormwater Channel without treatment

Anticipated volume and water quality will determine the feasibility of each disposal alternative. N2W has included this optional task to determine the anticipated volume and quality of water the Contactor can expect during construction. To determine these values N2W is proposing to:

- Install an 8-inch groundwater production well to a depth of 50-feet
- Install a 2-inch groundwater response well to a depth of 50-feet
- Develop the production well until a water level response is registered
- Monitor water levels in both wells while performing a step test to estimate the groundwater drawdown curve
- Obtain and test groundwater samples once the well has been developed and water quality has stabilized

The obtained drawdown curve will be used to estimate groundwater extraction rates required during construction to maintain a dry excavation. Groundwater samples will be tested in conformance to the water quality objectives of each disposal option. This testing is assumed to be completed over the summer and extracted groundwater can be disposed of into the NVLS for treatment at the SLRWRF.

If groundwater has sufficient quality to be discharged into the Pilgrim Creek Channel a permit will be required from the San Diego Regional Water Quality Control Board (Regional Board) for discharge of water during construction. This task includes the development of this permit, and the coordination required with the Regional Board for approval.

Open cut installation of the proposed gravity sewer line across the Pilgrim Creek Channel will require temporary diversion of incidental flow within the channel during construction. N2W is anticipating that this can be accomplished by providing a temporary dam across the channel with automated submersible pumps which convey water around the area of construction. This preliminary bypass will be designed by N2W and is anticipated to be implemented during a dry weather construction period. As water transferred from one section of the channel to another section of the channel is considered a surface water to surface water transfer, no permits are anticipated to be required from the Regional Board. A permit will be required from the City of Oceanside for this channel bypass system which is included in this task.

Deliverables:

- Technical memo describing the utilized test methods for groundwater extraction and water quality. This memo will also provide the anticipated dewatering rate required for construction, the results of water quality testing, and the correlating disposal options for extracted groundwater.
 - A permit application is to be submitted to the Regional Board if water quality is suitable for discharge into the Pilgrim Creek Channel
 - A permit application to be submitted to the City of Oceanside for the proposed channel crossing and channel bypass design
-

Appendices

Appendix A

Addenda

ACKNOWLEDGEMENT OF

ADDENDUM NO. 1

CITY OF OCEANSIDE

**North Valley Lift Station Replacement Project
(909164124722)**

Signing of this form acknowledges that the Consultant has received Addendum No. 1 and that he/she has read and understands the changes set forth in the Addendum.

This form must be signed by the Consultant's authorized representative and returned with the response to the RFP.

Authorized Representative  Greg Guillen, PhD, PE, Principal Engineer

Name of Consultant N2W Engineering

Date 3/26/2025

ACKNOWLEDGEMENT OF

ADDENDUM NO. 2

**CITY OF OCEANSIDE
North Valley Lift Station Replacement Project
(909164124722)**

Signing of this form acknowledges that the Consultant has received Addendum No. 2 and that he/she has read and understands the changes set forth in the Addendum.

This form must be signed by the Consultant's authorized representative and returned with the response to the RFP.

Authorized Representative  Greg Guillen, PhD, PE, Principal Engineer

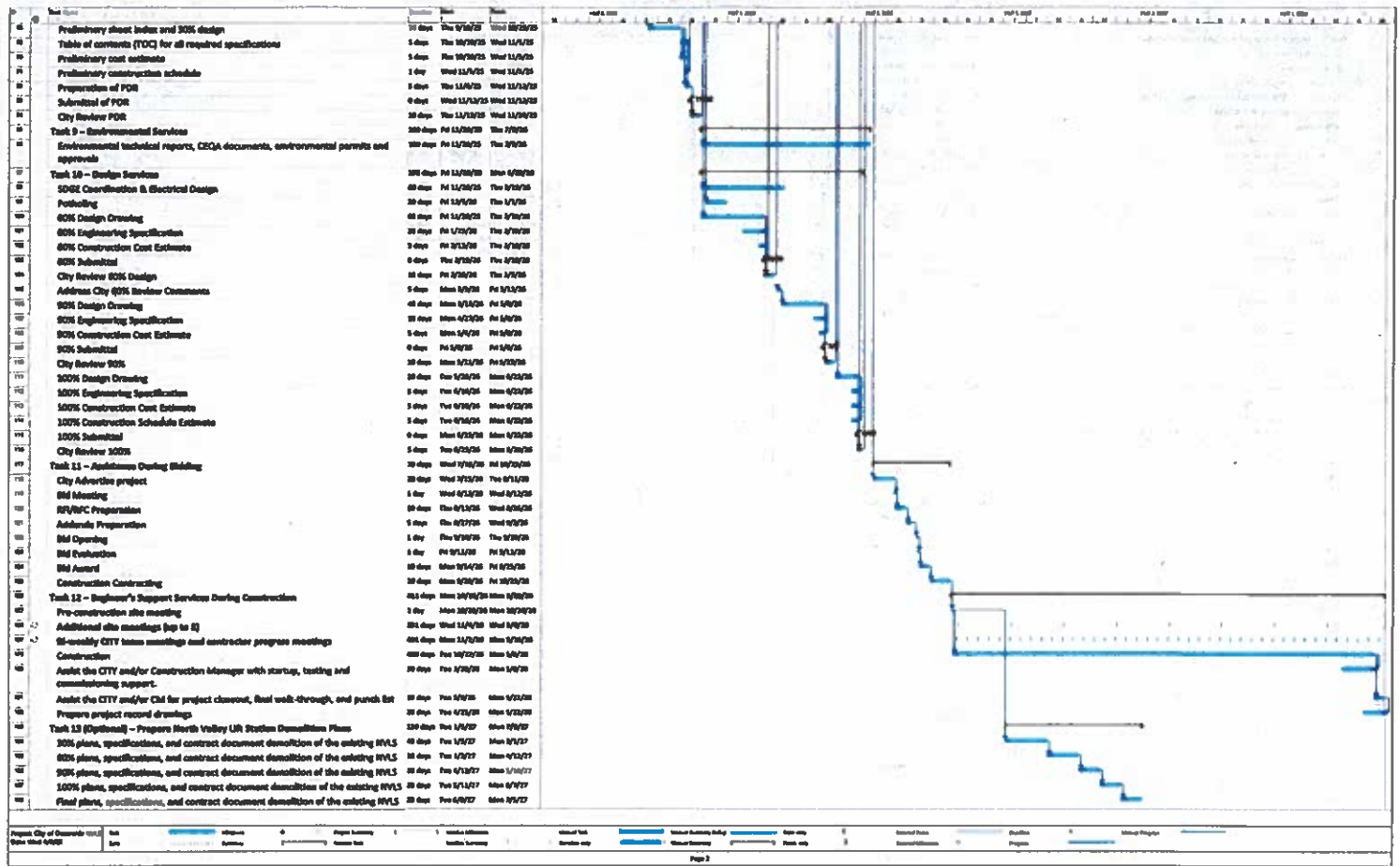
Name of Consultant N2W Engineering

Date 3/26/2025

Appendix E

Preliminary Schedule

[illegible]



Appendix G

List of Drawings

Table 1. Sheet Index for NVLS Replacement

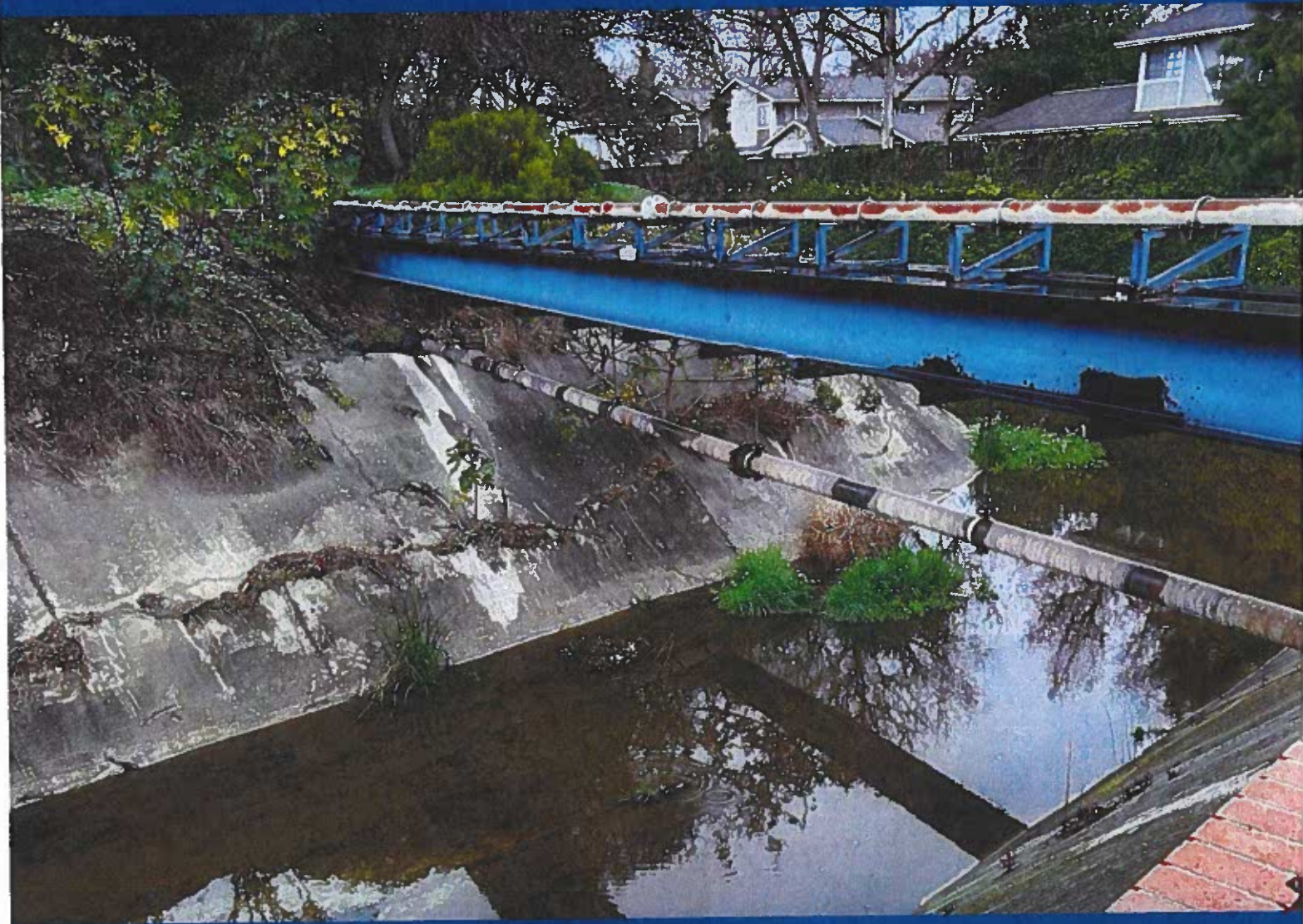
NO.	SHEET NO.	SHEET NAME
1	G-1	TITLE SHEET
2	G-2	SHEET INDEX & NOTES
3	G-3	LEGEND & ABBREVIATION
4	G-4	GENERAL NOTE 1
5	G-5	GENERAL NOTE 2
6	G-6	KEY MAP
7	G-7	SYSTEM FLOW SCHEMATIC DIAGRAM, DESIGN CRITERIA, HYDRAULIC GRADE LINE, PUMP CURVE/SYSTEM CURVE (DUAL AND SINGLE FORCEMAIN OPERATION)
8	C-1	LIFT STATION SITE PLAN
9	C-2	SURVEY CONTROL PLAN
10	C-3	DEMOLITION PLAN
11	C-4	LIFT STATION GRADING & PAVING PLAN I
12	C-5	LIFT STATION GRADING & PAVING PLAN II
13	C-6	YARD PIPING PLAN
14	C-7	SUBGRADE PREPARATION AND EXCAVATION PLAN
15	C-8	SEWER MAIN PLAN & PROFILE I
16	C-9	SEWER MAIN PLAN & PROFILE II
17	C-10	SEWER MAIN PLAN & PROFILE III
18	C-11	FORCE MAIN PLAN & PROFILE I
19	C-12	FORCE MAIN PLAN & PROFILE II
20	C-13	FORCE MAIN PLAN & PROFILE III
21	C-14	CIVIL DETAILS 1
22	C-15	CIVIL DETAILS 2
23	C-16	CIVIL DETAILS 3
24	C-17	CIVIL DETAILS 4
25	C-18	TRAFFIC CONTROL PLAN
26	C-19	SITE STAGING & CONTRACTOR ACCESS PLAN
27	M-1	LIFT STATION PLAN-UPPER LEVEL
28	M-2	LIFT STATION PLAN-LOWER LEVEL
29	M-3	SECTION NO.1
30	M-4	SECTION NO.2
31	M-5	SECTION NO.3
32	M-6	SECTION NO.4
33	M-7	SECTION NO.5
34	M-8	MISC DETAILS 1
35	M-9	MISC DETAILS 2
36	M-10	MISC DETAILS 3
37	M-11	MISC DETAILS 4

NO.	SHEET NO.	SHEET NAME
38	M-12	MISC DETAILS 5
39	M-13	VENTILATION PLAN & SECTION 1
40	M-14	VENTILATION PLAN & SECTION 2
41	M-15	VENTILATION DETAILS
42	A-1	LIFT STATION FLOOR PLAN
43	A-2	LIFT STATION ROOF PLAN
44	A-3	LIFT STATION REFLECTED CEILING PLAN
45	A-4	EXTERIOR ELEVATIONS 1
46	A-5	EXTERIOR ELEVATIONS 2
47	A-6	ARCHITECTURAL INTERIOR WALL SECTIONS & DETAILS 1
48	A-7	ARCHITECTURAL INTERIOR WALL SECTIONS & DETAILS 2
49	A-8	ARCHITECTURAL DETAILS 1
50	A-9	ARCHITECTURAL DETAILS 2
51	A-10	ARCHITECTURAL DETAILS 3
52	S-1	GENERAL STRUCTURAL NOTES
53	S-2	STRUCTURAL ABBREVIATION
54	S-3	STRUCTURAL INSPECTON AND OBSERVATION NOTES
55	S-4	LIFT STATION PLAN - UPPER LEVEL
56	S-5	LIFT STATION PLAN - LOWER LEVEL
57	S-6	LIFT STATION MONORAIL & ROOF FRAMING PLAN
58	S-7	LIFT STATION SECTIONS I
59	S-8	LIFT STATION SECTIONS II
60	S-9	LIFT STATION SECTIONS III
61	S-10	LIFT STATION SECTIONS IV
62	S-11	LIFT STATION BEAM ELEVATIONS
63	S-12	LIFT STATION STAIR PLAN & DETAIL
64	S-13	LIFT STATION ROOF SECTION & DETAIL I
65	S-14	LIFT STATION ROOF SECTION & DETAIL II
66	S-15	LIFT STATION ROOF SECTION & DETAIL III
67	S-16	STRUCTURAL DETAILS I
68	S-17	STRUCTURAL DETAILS II
69	S-18	STRUCTURAL DETAILS III
70	S-19	TYPICAL STRUCTURAL DETAILS I
71	S-20	TYPICAL STRUCTURAL DETAILS II
72	E-1	ELECTRICAL SYMBOL, LEGEND & ABBREVIATIONS
73	E-2	ELECTRICAL SITE PLAN
74	E-3	POWER & SIGNAL PLAN - UPPER LEVEL
75	E-4	POWER & SIGNAL PLAN - LOWER LEVEL
76	E-5	LIGHTING PLAN - UPPER LEVEL

NO.	SHEET NO.	SHEET NAME
77	E-6	LIGHTING PLAN - LOWER LEVEL
78	E-7	ELECTRICAL SECTION NO. 1
79	E-8	ELECTRICAL SECTION NO. 2
80	E-9	SINGLE LINE DIAGRAM & LOAD SUMMARY
81	E-10	CONDUCTOR, CONDUIT & WIRE SCHEDULE
82	E-11	LUMINAIRE AND PANEL SCHEDULE
83	E-12	CONTROL DIAGRAM I
84	E-13	CONTROL DIAGRAM II
85	E-14	CONTROL DIAGRAM III
86	E-16	TITLE 24
87	E-17	TITLE 24
88	E-18	TITLE 24
89	E-19	TITLE 24
90	E-20	TITLE 24
91	E-21	TITLE 24
92	E-22	ELECTRICAL DETAILS I
93	E-23	ELECTRICAL DETAILS II
94	I-1	INSTRUMENTATION LENGEND
95	I-2	PROCESS & INSTRUMENTATION - LIFT STATION I
96	I-3	PROCESS & INSTRUMENTATION - LIFT STATION II
97	I-4	PROCESS & INSTRUMENTATION - ODOR CONTROL & POWER GENERATOR
98	I-5	PLC INOUT/OUTPUT SCHEDULE
99	I-6	INSTRUMENTATION SCHEDULE
100	I-7	TYPICAL PLC WIRING DIAGRAM
101	I-8	CONTROL WIRING DIAGRAM
102	I-9	CONTROL PANEL ELEVATION
103	I-10	PLC PANEL POWER DISTRIBUTION DIAGRAM
104	I-11	SCADA ARCHITECTURE
105	I-12	INSTRUMENTATION DETAILS I
106	I-13	INSTRUMENTATION DETAILS II
107	L-1	IRRIGATION LEGEND & NOTES
108	L-2	IRRIGATION PLAN
109	L-3	IRRIGATION DETAILS I
110	L-4	IRRIGATION DETAILS II
111	L-5	PLANTING LEGEND & NOTES
112	L-6	PLANTING PLAN
113	L-7	PLANTING DETAILS
114	L-8	WATER CONSERVATION PLAN

Table 2. Sheet Index for NVLS Demolition

NO.	SHEET NO.	SHEET NAME
1	G-1	TITLE SHEET
2	G-2	SHEET INDEX & NOTES
3	G-3	LEGEND & ABBREVIATION
4	G-4	GENERAL NOTE 1
5	G-5	GENERAL NOTE 2
6	D-1	LIFT STATION SITE PLAN EXISTING
7	D-2	DEMOLITION KEY MAP
8	D-3	DEMOLITION PLAN- EXISTING LIFT STATION UPPER FLOOR
9	D-4	DEMOLITION PLAN- EXISTING LIFT STATION LOWER FLOOR FLOOR
10	D-5	DEMOLITION PLAN- OVERFLOW BASIN, ODOR CONTROL, AND CHEMICAL INJECTION
11	D-6	DEMOLITION SECTIONS AND PHOTOS I
12	D-7	DEMOLITION SECTIONS AND PHOTOS II
13	D-8	DEMOLITION SECTIONS AND PHOTOS III
14	D-9	DEMOLITION SECTIONS AND PHOTOS IV
15	D-10	DEMOLITION- SINGLE LINE DIAGRAM



CONTACT

Project Manager: Greg Guillen, PhD, PE

Phone: (909) 557-0852

Email: greg.guillen@n2weng.com