

SERVICE PROVIDER AGREEMENT

This SERVICE PROVIDER AGREEMENT (“**Agreement**”) is entered into this ____ day of _____, 2025 (“**Effective Date**”), by and between the CITY OF ALAMEDA, a municipal corporation (“the **City**”), and **TERRAPHASE ENGINEERING**, a California corporation, whose address is **1300 CLAY STREET, SUITE 1000, OAKLAND, CALIFORNIA 94612** (“**Provider**” or “**Contractor**”), in reference to the following facts and circumstances:

RECITALS

- A. The City is a municipal corporation duly organized and validly existing under the laws of the State of California with the power to carry on its business as it is now being conducted under the statutes of the State of California and the Charter of the City.
- B. The City is in need of the following services: on-call Geotechnical Engineering and Construction Testing services. City staff issued an RFP on March 17, 2025 and after a submittal period of twenty-one days received nine timely submitted proposals. Staff reviewed the proposals, interviewed qualified firms and selected the service provider that best meets the City’s needs.
- C. Provider is specially trained, experienced and competent to perform the special services which will be required by this Agreement.
- D. Whereas, the City Council authorized the City Manager to execute this agreement on June 17, 2025.
- E. The City and Provider desire to enter into an agreement for on-call Geotechnical Engineering and Construction Testing services, upon the terms and conditions herein.

AGREEMENT

NOW, THEREFORE, in consideration of the forgoing, which are incorporated herein by reference, and for good and valuable consideration, the receipt and adequacy of which are hereby acknowledged, the City and Provider agree as follows:

1. TERM:

The term of this Agreement shall commence the 1st day of July 2025, and shall terminate on the 30th day of June 2030, unless terminated earlier as set forth herein.

2. SERVICES TO BE PERFORMED:

Provider agrees to do all necessary work at its own cost and expense, to furnish all labor, tools, equipment, materials, except as otherwise specified, and to do all necessary work included in Exhibit A as requested. Provider acknowledges that the work plan included in Exhibit A is tentative and does not commit the City to request Provider to perform all tasks included therein.

3. COMPENSATION TO PROVIDER:

a. By the 7th day of each month, Provider shall submit to the City an invoice for the total amount of work done the previous month. Pricing and accounting of charges are to be according to the fee schedule as set forth in Exhibit B and incorporated herein by this reference. Extra work must be approved in writing by the City Manager or their designee prior to performance and shall be paid on a Time and Material basis as set forth in Exhibit B.

The total five-year compensation for this Agreement shall not exceed \$750,000.

4. TIME IS OF THE ESSENCE:

Provider and the City agree that time is of the essence regarding the performance of this Agreement.

5. STANDARD OF CARE:

Provider shall perform all services under this Agreement in a skillful and competent manner, consistent with the standards generally recognized as being employed by professionals in the same discipline in the State of California. Provider represents that it is skilled in the professional calling necessary to perform all services contracted for in this Agreement. Provider further represents that all of its employees and subcontractors shall have sufficient skill and experience to perform the duties assigned to them pursuant to and in furtherance this Agreement. Provider further represents that it (and its employees and subcontractors) have all licenses, permits, qualifications, and approvals of whatever nature that are legally required to perform the services (including a City Business License, as needed); and that such licenses and approvals shall be maintained throughout the term of this Agreement. As provided for in the indemnification provisions of this Agreement, Provider shall perform (at its own cost and expense and without reimbursement from the City) any services necessary to correct errors or omissions which are caused by Provider's failure to comply with the standard of care provided for herein. Any employee of the Provider or its sub-providers who is determined by the City to be uncooperative, incompetent, a threat to the adequate or timely completion of any services under this Agreement, or a threat to the safety of persons or property (or any employee who fails or refuses to perform the services in a manner acceptable to the City) shall be promptly removed by the Provider and shall not be re-employed to perform any further services under this Agreement.

6. INDEPENDENT PARTIES:

Provider hereby declares that Provider is engaged as an independent business and Provider agrees to perform the services as an independent contractor. The manner and means of conducting the services and tasks are under the control of Provider except to the extent they are limited by statute, rule or regulation and the express terms of this Agreement. No civil service status or other right of employment will be acquired by virtue of Provider's services. None of the benefits provided by the City to its employees, including but not limited to unemployment insurance, workers' compensation plans, vacation and sick leave, are available from the City to Provider, its employees or agents. Deductions shall not be made for any state or federal taxes, FICA payments, PERS payments, or other purposes normally associated with an employer-employee relationship from any compensation due to Provider. Payments of the above items, if required, are the responsibility of Provider. Any personnel performing the services under this Agreement on behalf

of Provider shall also not be employees of City and shall at all times be under Provider's exclusive direction and control.

7. IMMIGRATION REFORM AND CONTROL ACT (IRCA):

Provider assumes any and all responsibility for verifying the identity and employment authorization of all of its employees performing work hereunder, pursuant to all applicable IRCA or other federal, or state rules and regulations. Provider shall indemnify, defend, and hold the City harmless from and against any loss, damage, liability, costs or expenses arising from any noncompliance of this provision by Provider.

8. NON-DISCRIMINATION:

Consistent with the City's policy and state and federal law that harassment and discrimination are unacceptable conduct, Provider and its employees, contractors, and agents shall not harass or discriminate against any job applicant, City employee, or any other person on the basis of any kind of any statutorily (federal, state or local) protected class, including but not limited to: race, religious creed, color, national origin, ancestry, disability (both mental and physical) including HIV and AIDS, medical condition (e.g. cancer), genetic information, marital status, sex, gender, gender identity, gender expression, age, sexual orientation, pregnancy, political affiliation, military and veteran status or legitimate union activities. Such non-discrimination shall include but not be limited to all activities related to initial employment, upgrading, demotion, transfer, recruitment or recruitment advertising, layoff, or termination. Provider agrees that any violation of this provision shall constitute a material breach of this Agreement.

9. HOLD HARMLESS:

a. To the fullest extent permitted by law, Provider shall indemnify, defend (with counsel acceptable to the City) and hold harmless the City, its City Council, boards, commissions, officials, employees, agents and volunteers ("Indemnitees") from and against any and all loss, damages, liability, obligations, claims, suits, judgments, costs and expenses whatsoever, including reasonable attorney's fees and costs of litigation ("Claims"), arising from or in any manner connected to Provider's performance of its obligations under this Agreement or out of the operations conducted by Provider even if the City is found to have been negligent. If the Claims filed against Indemnitees allege negligence, recklessness or willful misconduct on the part of Provider, Provider shall have no right of reimbursement against Indemnitees for the costs of defense even if negligence, recklessness or willful misconduct is not found on the part of Provider. Provider shall not have any obligations to indemnify Indemnitees if the loss or damage is found to have resulted solely from the negligence or the willful misconduct of the City. The defense and indemnification obligations of this Agreement are undertaken in addition to, and shall not in any way be limited by, the insurance obligations contained in this Agreement.

b. As to Claims for professional liability only, Provider's obligation to defend Indemnitees (as set forth above) is limited as provided in California Civil Code Section 2782.8.

c. Provider's obligation to indemnify, defend and hold harmless Indemnitees shall expressly survive the expiration or early termination of this Agreement.

10. INSURANCE:

a. On or before the commencement of the terms of this Agreement, Provider shall furnish the City's Risk Manager with certificates showing the type, amount, class of operations covered, effective dates and dates of expiration of insurance coverage in compliance with Sections 10.b. (1) through (4). The Certificate Holder should be The City of Alameda, 2263 Santa Clara, Ave., Alameda, CA 94501. Such certificates, which do not limit Provider's indemnification, shall also contain substantially the following statement:

"Should any of the above insurance covered by this certificate be canceled or coverage reduced before the expiration date thereof, the insurer affording coverage shall provide thirty (30) days' advance written notice to the City of Alameda. Attention: Risk Manager."

Provider shall maintain in force at all times during the performance of this Agreement all appropriate coverage of insurance required by this Agreement with an insurance company licensed to offer insurance business in the State of California with a current A.M. Best's rating of no less than A:VII or Standard & Poor's Rating (if rated) of at least BBB unless otherwise acceptable to the City. Provider shall deliver updated insurance certificates to the City at the address described in Section 17.f. prior to the expiration of the existing insurance certificate for the duration of the term of Agreement. Endorsements naming the City, its City Council, boards, commissions, officials, employees, agents, and volunteers as additional insured shall be submitted with the insurance certificates.


Provider Initials

b. COVERAGE REQUIREMENTS:

Provider shall maintain insurance coverage and limits at least as broad as:

(1) Workers' Compensation:

Statutory coverage as required by the State of California, as well as a Waiver of Subrogation (Rights of Recovery) endorsement.

(2) Liability:

Commercial general liability coverage in the following minimum limits:

Bodily Injury:	\$1,000,000 each occurrence
	\$2,000,000 aggregate - all other

Property Damage:	\$1,000,000 each occurrence
	\$2,000,000 aggregate

If submitted, combined single limit policy with per occurrence limits in the amounts of \$2,000,000 and aggregate limits in the amounts of \$4,000,000 will be considered equivalent to the required minimum limits shown above. Provider shall also submit declarations and policy endorsements pages. Additional Insured Endorsement naming the City, its City Council, boards, commissions, officials,

employees, agents, and volunteers is required. The Additional Insured Endorsement shall include primary and non-contributory coverage at least as broad as the CG 2010.

(3) Automotive:

Comprehensive automobile liability coverage (any auto) in the following minimum limits:

Bodily injury:	\$1,000,000 each occurrence
Property Damage:	\$1,000,000 each occurrence

or

Combined Single Limit: \$2,000,000 each occurrence

Additional Insured Endorsement naming the City, its City Council, boards, commissions, officials, employees, agents, and volunteers is required.

(4) Professional Liability:

Professional liability insurance which includes coverage appropriate for the professional acts, errors and omissions of Provider's profession and work hereunder, including, but not limited to, technology professional liability errors and omissions if the services being provided are technology-based, in the following minimum limits:

\$2,000,000 each claim

As to commercial general liability and automobile liability insurance, such insurance will provide that it constitutes primary insurance with respect to claims insured by such policy, and, except with respect to limits, that insurance applies separately to each insured against whom claim is made or suit is brought. Such insurance is not additional to or contributing with any other insurance carried by or for the benefit of the City.

c. SUBROGATION WAIVER:

Provider hereby agrees to waive rights of subrogation that any insurer of Provider may acquire from Provider by virtue of the payment of any loss. Provider agrees to obtain any endorsement that may be necessary to affect this waiver of subrogation, but this provision applies regardless of whether the City has received a waiver of subrogation endorsement from the insurer. The Workers' Compensation policy shall be endorsed with a waiver of subrogation in favor of the City for all work performed by Provider, its employees, agents and subcontractors.

d. FAILURE TO SECURE:

If Provider at any time during the term hereof should fail to secure or maintain the foregoing insurance, the City shall be permitted to obtain such insurance in Provider's name or as an agent of Provider and shall be compensated by Provider for the costs of the insurance premiums at the maximum rate permitted by law and computed from the date written notice is received that the premiums have not been paid.

e. ADDITIONAL INSURED(S):

The City, its City Council, boards, commissions, officials, employees, agents, and volunteers shall be named as additional insured(s) under all insurance coverages, except workers' compensation and professional liability insurance. The naming of an additional insured shall not affect any recovery to which such additional insured would be entitled under this policy if not named as such additional insured. An additional insured named herein shall not be held liable for any premium, deductible portion of any loss, or expense of any nature on this policy or any extension thereof. Any other insurance held by an additional insured shall not be required to contribute anything toward any loss or expense covered by the insurance provided by this policy. Additional Insured coverage under Provider's policy shall be primary and non-contributory and will not seek contribution from the City's insurance or self-insurance. Any available insurance proceeds broader than or in excess of the specified minimum insurance coverage requirements and/or limits shall be available to the additional insured(s).

f. SUFFICIENCY OF INSURANCE:

The insurance limits required by the City are not represented as being sufficient to protect Provider. Provider is advised to consult Provider's insurance broker to determine adequate coverage for Provider. The coverage and limits shall be (1) the minimum coverage and limits specified in this Agreement; or (2) the broader coverage and maximum limits of the coverage carried by or available to Provider; whichever is greater.

g. EXCESS OR UMBRELLA LIABILITY:

If any Excess or Umbrella Liability policies are used to meet the limits of liability required by this Agreement, then said policies shall be true "following form" of the underlying policy coverage, terms, conditions, and provisions and shall meet all of the insurance requirements stated in this Agreement, including but not limited to, the additional insured, SIR, and primary insurance requirements stated therein. No insurance policies maintained by the indemnified parties or Additional Insureds, whether primary or excess, and which also apply to a loss covered hereunder, shall be called upon to contribute to a loss until all the primary and excess liability policies carried by or available to the Provider are exhausted. **If a Provider is using an Excess Liability policy to supplement any insurance coverage required by this Agreement, they must submit the Excess Liability policy in full.**

11. CONFLICT OF INTEREST:

Provider warrants that it is not a conflict of interest for Provider to perform the services required by this Agreement. Provider may be required to fill out a conflict of interest form if the services provided under this Agreement require Provider to make certain governmental decisions or serve in a staff capacity as defined in Title 2, Division 6, Section 18700 of the California Code of Regulations.

12. PROHIBITION AGAINST TRANSFERS:

a. Provider shall not assign, sublease, hypothecate, or transfer this Agreement, or any interest therein, directly or indirectly, by operation of law or otherwise, without prior written consent of the City Manager. Provider shall submit a written request for consent to transfer to the City Manager at least thirty (30) days in advance of the desired transfer. The City Manager or their designee may consent or reject such request in their sole and absolute discretion. Any attempt

to do so without said consent shall be null and void, and any assignee, sublessee, hypothecate or transferee shall acquire no right or interest by reason of such attempted assignment, hypothecation or transfer. However, claims for money against the City under this Agreement may be assigned by Provider to a bank, trust company or other financial institution without prior written consent.

b. The sale, assignment, transfer or other disposition of any of the issued and outstanding capital stock, membership interest, partnership interest, or the equivalent, which shall result in changing the control of Provider, shall be construed as an assignment of this Agreement. Control means fifty percent or more of the voting power of Provider.

13. APPROVAL OF SUB-PROVIDERS:

a. Only those persons and/or businesses whose names and resumés are attached to this Agreement shall be used in the performance of this Agreement. However, if after the start of this Agreement, Provider wishes to use sub-providers, at no additional costs to the City, then Provider shall submit a written request for consent to add sub-providers including the names of the sub-providers and the reasons for the request to the City Manager at least five (5) days in advance. The City Manager may consent or reject such requests in their sole and absolute discretion.

b. Each sub-provider shall be required to furnish proof of workers' compensation insurance and shall also be required to carry general, automobile and professional liability insurance (as applicable) in reasonable conformity to the insurance carried by Provider.

c. In addition, any tasks or services performed by sub-providers shall be subject to each provision of this Agreement. Provider shall include the following language in their agreement with any sub-provider: "Sub-providers hired by Provider agree to be bound to Provider and the City in the same manner and to the same extent as Provider is bound to the City."

d. The requirements in this Section 13 shall not apply to persons who are merely providing materials, supplies, data or information that Provider then analyzes and incorporates into its work product.

14. PERMITS AND LICENSES:

Provider, at its sole expense, shall obtain and maintain during the term of this Agreement, all appropriate permits, certificates and licenses, including a City business license that may be required in connection with the performance of the services and tasks hereunder.

15. REPORTS:

a. Each and every report, draft, work product, map, record and other document produced, prepared or caused to be prepared by Provider pursuant to or in connection with this Agreement shall be the exclusive property of the City.

b. No report, information or other data given to or prepared or assembled by Provider pursuant to this Agreement shall be made available to any individual or organization by Provider without prior approval of the City Manager or their designee.

c. Provider shall, at such time and in such form as City Manager or their designee may

require, furnish reports concerning the status of services and tasks required under this Agreement.

16. RECORDS:

a. Generally, the City has the right to conduct audits of Provider's financial, performance and compliance records maintained in connection with Contractor's operations and services performed under the Agreement. In the event of such audit, Contractor agrees to provide the City with reasonable access to Contractor's employees and make all such financial (including annual financial statements signed by an independent CPA), performance and compliance records available to the City. City agrees to provide Contractor an opportunity to discuss and respond to any findings before a final audit report is filed.

b. Provider shall maintain complete and accurate records with respect to the services, tasks, work, documents and data in sufficient detail to permit an evaluation of Provider's performance under the Agreement, as well as maintain books and records related to sales, costs, expenses, receipts and other such information required by the City that relate to the performance of the services and tasks under this Agreement (collectively the "**Records**").

c. All Records shall be maintained in accordance with generally accepted accounting principles and shall be clearly identified and readily accessible. Provider shall provide free access to the Records to the representatives of the City or its designees during regular business hours upon reasonable prior notice. The City has the right to examine and audit the Records, and to make copies or transcripts therefrom as necessary, and to allow inspection of all proceedings and activities related to this Agreement. Such Records, together with supporting documents, shall be kept separate from other documents and records and shall be maintained by Provider for a period of three (3) years after receipt of final payment.

d. If supplemental examination or audit of the Records is necessary due to concerns raised by the City's preliminary examination or audit of records, and the City's supplemental examination or audit of the records discloses a failure to adhere to appropriate internal financial controls, or other breach of this Agreement or failure to act in good faith, then Provider shall reimburse the City for all reasonable costs and expenses associated with the supplemental examination or audit.

17. NOTICES:

a. All notices shall be in writing and delivered: (i) by hand; or (ii) sent by registered, express, or certified mail, with return receipt requested or with delivery confirmation requested from the U.S. postal service; or (iii) sent by overnight or same day courier service at the party's respective address listed in this Section.

b. Each notice shall be deemed to have been received on the earlier to occur of: (x) actual delivery or the date on which delivery is refused; or (y) three (3) days after notice is deposited in the U.S. mail or with a courier service in the manner described above (Sundays and City holidays excepted).

c. Either party may, at any time, change its notice address (other than to a post office box address) by giving the other party three (3) days prior written notice of the new address.

d. All notices, demands, requests, or approvals from Provider to the City shall be addressed to the City at:

City of Alameda
Public Works Department
950 West Mall Square #110
Alameda, CA 94501
ATTENTION: Scott Wikstrom, City Engineer
Ph: (510) 747-7937 / swikstrom@alamedaca.gov

e. All notices, demands, requests, or approvals from the City to Provider shall be addressed to Provider at:

Terraphase Engineering
1300 Clay Street, Suite 1000
Oakland, CA 94612
ATTENTION: Emily Mosen
Ph: (510) 645-1850 ext. 42 / Email: emily.mosen@terrphase.com

f. All updated insurance certificates from Provider to the City shall be addressed to the City at:

City of Alameda
Public Works Department
950 West Mall Square #110
Alameda, CA 94501
ATTENTION: Jeanette Navarro, Executive Assistant
Ph: (510) 747-7932 / jnavarro@alamedaca.gov

18. SAFETY:

a. Provider will be solely and completely responsible for conditions of all vehicles owned or operated by Provider, including the safety of all persons and property during performance of the services and tasks under this Agreement. This requirement will apply continuously and not be limited to normal working hours. In addition, Provider will comply with all safety provisions in conformance with U.S. Department of Labor Occupational Safety and Health Act, any equivalent state law, and all other applicable federal, state, county and local laws, ordinances, codes, and any regulations that may be detailed in other parts of the Agreement. Where any of these are in conflict, the more stringent requirements will be followed. Provider's failure to thoroughly familiarize itself with the aforementioned safety provisions will not relieve it from compliance with the obligations and penalties set forth herein.

b. Provider will immediately notify the City within 24 hours of any incident of death, serious personal injury or substantial property damage that occurs in connection with the performance of this Agreement. Provider will promptly submit to the City a written report of all incidents that occur in connection with this Agreement. This report must include the following information: (i) name and address of injured or deceased person(s); (ii) name and address of

Provider's employee(s) involved in the incident; (iii) name and address of Provider's liability insurance carrier; (iv) a detailed description of the incident; and (v) a police report.

19. TERMINATION:

a. In the event Provider fails or refuses to perform any of the provisions hereof at the time and in the manner required hereunder, Provider shall be deemed in default in the performance of this Agreement. If such default is not cured within two (2) business days after receipt by Provider from the City of written notice of default, specifying the nature of such default and the steps necessary to cure such default, the City may thereafter immediately terminate the Agreement forthwith by giving to Provider written notice thereof.

b. The foregoing notwithstanding, the City shall have the option, at its sole discretion and without cause, of terminating this Agreement by giving seven (7) days' prior written notice to Provider as provided herein.

c. Upon termination of this Agreement either for cause or for convenience, each party shall pay to the other party that portion of compensation specified in this Agreement that is earned and unpaid prior to the effective date of termination. The obligation of the parties under this Section 19.c. shall survive the expiration or early termination of this Agreement.

20. ATTORNEYS' FEES:

In the event of any litigation, including administrative proceedings, relating to this Agreement, including but not limited to any action or suit by any party, assignee or beneficiary against any other party, beneficiary or assignee, to enforce, interpret or seek relief from any provision or obligation arising out of this Agreement, the parties and litigants shall bear their own attorney's fees and costs. No party or litigant shall be entitled to recover any attorneys' fees or costs from any other party or litigant, regardless of which party or litigant might prevail.

21. HEALTH AND SAFETY REQUIREMENTS.

Provider acknowledges that the City shall have the right to impose, at the City's sole discretion, requirements that it deems are necessary to protect the health and safety of the City employees, residents, and visitors. Provider agrees to comply with all such requirements, including, but not limited to, mandatory vaccinations, the use of personal protective equipment (e.g. masks), physical distancing, and health screenings. Provider also agrees to make available to the City, at the City's request, records to demonstrate Provider's compliance with this Section.

22. COMPLIANCE WITH ALL APPLICABLE LAWS:

During the term of this Agreement, Provider shall keep fully informed of all existing and future state and federal laws and all municipal ordinances and regulations of the City of Alameda which affect the manner in which the services or tasks are to be performed by Provider, as well as all such orders and decrees of bodies or tribunals having any jurisdiction or authority over the same. Provider shall comply with all applicable laws, state and federal and all ordinances, rules and regulations enacted or issued by the City. Provider shall defend, indemnify, and hold City (including its officials, directors, officers, employees, and agents) free and harmless from any claim or liability arising out of any failure or alleged failure to comply with such laws and regulations pursuant to the indemnification provisions of this Agreement.

23. CONFLICT OF LAW:

This Agreement shall be interpreted under, and enforced by the laws of the State of California without regard to any choice of law rules which may direct the application of laws of another jurisdiction. The Agreement and obligations of the parties are subject to all valid laws, orders, rules, and regulations of the authorities having jurisdiction over this Agreement (or the successors of those authorities). Any suits brought pursuant to this Agreement shall be filed with the courts of the County of Alameda, State of California.

24. WAIVER:

A waiver by the City of any breach of any term, covenant, or condition contained herein shall not be deemed to be a waiver of any subsequent breach of the same or any other term, covenant, or condition contained herein, whether of the same or a different character.

25. INTEGRATED CONTRACT:

Subject to the language of Section 33, the Recitals and exhibits are a material part of this Agreement and are expressly incorporated herein. This Agreement represents the full and complete understanding of every kind or nature whatsoever between the parties hereto, and all preliminary negotiations and agreements of whatsoever kind or nature are merged herein. No verbal agreement or implied covenant shall be held to vary the provisions hereof. Any modification of this Agreement will be effective only by written execution signed by both the City and Provider.

26. PREVAILING WAGES:

Provider is aware of the requirements of California Labor Code Section 1720, et seq., and 1770, et seq. as well as California Code of Regulations, Title 8, Section 1600, et seq., ("Prevailing Wage Laws") which require the payment of prevailing wage rates and the performance of other requirements on "public works" and "maintenance" projects. Provider agrees to fully comply with such Prevailing Wage Laws if the services are being performed as part of an applicable "public works" or "maintenance" project as defined by the Prevailing Wage Laws and if the total compensation is \$1,000 or more. City, upon Provider's request, shall provide Provider with a copy of the prevailing rates of per diem wages in effect at the commencement of this Agreement. Provider shall make copies of the prevailing rates of per diem wages for each craft, classification, or type of worker needed to execute the services available to interested parties upon request; and shall post copies at the Provider's principal place of business and at the project site. Provider shall defend, indemnify, and hold the City (its elected officials, officers, employees, and agents) free and harmless from any claim or liability arising out of any failure or alleged failure to comply with the Prevailing Wage Laws.

27. DEPARTMENT OF INDUSTRIAL RELATIONS COMPLIANCE AND PREVAILING WAGE REQUIREMENTS ON PUBLIC WORKS PROJECTS:

a. For purposes of Sections 27 through 29 of this Agreement, the terms "claim", "contractor", "public works project" and "subcontractor" shall have the same meanings set forth in Public Contract Code Section 9204.

b. No contractor or subcontractor may be listed on a bid proposal for a public works project, nor engage in the performance of any public work contract, unless registered with the Department of Industrial Relations pursuant to Labor Code Section 1725.5 (with the limited exceptions for certain bids pursuant to Labor code Section 1771.1(a)). Registration instructions may be found at the following website: <https://www.dir.ca.gov/Public-Works/Contractor-Registration.html>

c. All contractors and subcontractors must furnish electronic certified payroll records directly to the Labor Commissioner at the following website: <https://www.dir.ca.gov/Public-Works/Certified-Payroll-Reporting.html>

d. Contractor is required to all post job site notices as prescribed by State law. (See 8 Cal. Code Regs, § 16451(d).)

e. In executing this Agreement, Contractor acknowledges and agrees that
f. the work authorized by this Agreement may be subject to compliance monitoring and enforcement by the Department of Industrial Relations.

28. **REGISTRATION OF CONTRACTORS:**

Before submitting bids for any work authorized by this Agreement, contractors shall be licensed in accordance with the provisions of Chapter 9, Division 3, of the Business and Professions Code of the State of California.

29. **PUBLIC CONTRACT CODE SECTION 9204 SUMMARY:**

Notwithstanding anything else to the contrary stated in the Information For Bidders (IFB) or other documents associated with this Agreement, all claims, regardless of dollar amount, submitted between January 1, 2017 and January 1, 2027 related to work performed or scheduled to be performed pursuant to this Agreement shall be governed by Public Contract Code Section 9204 and this section. The following provisions and procedures shall apply:

a. Contractor shall submit each Claim (whether for a time extension, payment for money or damages) in writing and in compliance with Public Contract Code Section 9204. Contractor must include reasonable documentation to support each claim.

b. Upon receipt of a claim, the City shall conduct a reasonable review and respond in writing within 45 days of receipt and shall identify in a written statement what portions of the claim are disputed and undisputed. Undisputed portions of the claim shall be process and paid within 60 days of the written statement. Undisputed amounts not paid in a timely manner shall bear interest at 7% per annum. The City and Contractor may mutually agree to extend the 45 day response time.

c. If the City needs approval from the City Council to provide a written statement, the 45 days may be extended to 3 days following the next duly noticed public meeting pursuant to Public Contract Code Section 9204(d)(1)(C).

d. If the City fails to timely respond to a claim or if Contractor disputes the City's response, Contractor may submit a written demand for an informal meet and confer conference with the City to settle the issues in dispute. The demand must be sent via registered or certified mail, return receipt requested. Upon receipt, the City shall schedule the conference within 30 days.

e. Within 10 business days following the informal meet and confer conference, the City shall submit to Contractor a written statement describing any issues remaining in dispute and that portion which is undisputed. Undisputed portions of the claim shall be processed and paid within 60 days of the written statement. Undisputed amounts not paid in a timely manner shall bear interest at 7% per annum. The issues remaining in dispute shall be submitted to non-binding mediation. If the City and Contractor mutually agree on a mediator, each party shall pay equal portions of all associated costs. If within 10 business days, the City and Contractor cannot agree on a mediator, each party shall select a mediator (paying all costs associated with their selected mediator), and those mediators shall select a qualified neutral third party to mediate the disputed issues. The City and Contractor shall pay equal portions of all associated costs of such third party mediator.

f. Unless otherwise agreed by the City and Contractor, any mediation conducted hereunder shall excuse any further obligation under Public Contract Code Section 20104.4 to mediate after litigation has commenced.

g. The City reserves all rights and remedies that it has pursuant to this Agreement, any associated plans and specifications, or at law or in equity which are not in conflict with Public Contract Code 9204.

30. CAPTIONS:

The captions in this Agreement are for convenience only, are not a part of the Agreement and in no way affect, limit or amplify the terms or provisions of this Agreement.

31. COUNTERPARTS:

This Agreement may be executed in any number of counterparts (including by fax, PDF, DocuSign, or other electronic means), each of which shall be deemed an original, but all of which shall constitute one and the same instrument.

32. SIGNATORY:

By signing this Agreement, signatory warrants and represents that they executed this Agreement in their authorized capacity and that by their signature on this Agreement, they or the entity upon behalf of which they acted, executed this Agreement.

33. CONTROLLING AGREEMENT:

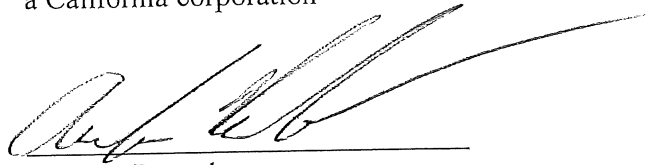
In the event of a conflict between the terms and conditions of this Agreement (as amended, supplemented, restated or otherwise modified from time to time) and any other terms and

conditions wherever contained, including, without limitation, terms and conditions included within exhibits, the terms and conditions of this Agreement shall control and be primary.

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IN WITNESS WHEREOF, the parties have each caused this Agreement to be duly executed on its behalf as of the Effective Date.

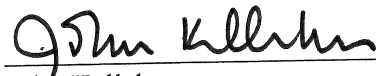
TERRAPHASE ENGINEERING
a California corporation



Andrew Romolo
Vice President

CITY OF ALAMEDA
a municipal corporation

Jennifer Ott
City Manager



John Kelleher
Chief Financial Officer

RECOMMENDED FOR APPROVAL

Signed by:



Erin Smith
Public Works Director

APPROVED AS TO FORM:
City Attorney

DocuSigned by:



Len Aslanian
Assistant City Attorney



April 7, 2025

Scott Wikstrom, PE, City Engineer
City of Alameda, Public Works Department
950 West Mall Square, Room 110
Alameda, CA 94501

submitted via email to pw@alamedaca.gov

Subject: Response to Request for Proposals for On-Call Geotechnical Engineering and Construction Testing Services, City of Alameda

Dear Mr. Wikstrom:

Terraphase Engineering Inc. (Terraphase) is pleased to present this Technical Proposal for On-Call Geotechnical Engineering and Construction Testing Services to the City of Alameda ("the City"). Terraphase has broad capabilities in geotechnical engineering.

Terraphase has a distinct advantage in that the location of our headquarters (and over 30 professional staff) is less than 15 minutes from the City of Alameda's Public Works Department in City Hall West.

Terraphase's three senior geotechnical engineers, Jeff Raines, Rick Powell, and Joseph Schmidt have more than a century of experience as consulting Geotechnical Engineers. They are supported by dozens of engineers and geologists on staff at Terraphase.

Through many years of service, Terraphase Professional Engineers and Geologists have a thorough understanding of the geology of the Bay Area, from the slow-moving

Terraphase has 21 California-registered professional engineers and 19 California-registered professional geologists on staff.

landslides in the hills to the thick Younger Bay Mud deposits along the shore. Terraphase staff are well-versed in implementing the California Department of Transportation Flexible Pavement Design methodology (Chapter 630 of the Highway Design Manual).

Terraphase takes no exceptions to the Standard Service Provider Agreement provided as Exhibit B to the RFP.

Terraphase hopes to continue our support of the City's projects, and we appreciate the opportunity to provide the City with this proposal. If you have any questions, please contact either Andrew Romolo at (510) 645-1856 or Emily Mosen at (510) 645-1850 ext. 42.

Sincerely,
for Terraphase Engineering Inc.

Andrew Romolo, PG
Vice President/Senior Principal Geologist

Emily Mosen, PG
Senior Associate Geologist

Terraphase has ongoing experience on the following high-profile Bay Area projects:

City of Alameda (2018 - present), including Base Reuse and Economic Development, Transportation, and Public Works departments

City of Oakland (2013 - present), including the redevelopment of the Former Oakland Army Base and remediation of the Oakland Municipal Yard

Lawrence Berkeley National Laboratory (2016 - present)

City of Richmond for the Former Naval Fuel Depot Point Molate (2010 - present)

East Bay Municipal Utility District (2018 - present)

Treasure Island Development Group for the Former Naval Station Treasure Island (2010 - present)

Contents

A Description of Organization, Management and Team Members 1

 A.1.Description of Firm..... 1

 A.2.Approach..... 1

 Management and Quality Control of Quick Turnaround Projects 4

 A.3.Project Personnel 5

 Firm and Team Organizational Charts..... 5

 Project Director and Project Manager’s Qualifications..... 6

 Key Personnel..... 6

B Organization Qualifications 8

 B.1.Approach to Delivering Collaborative Solutions for Complex Projects in Coordination with City Staff,
 Community Groups, and Other Stakeholders..... 8

 B.2.Geotechnical Expertise 9

 Geotechnical Evaluations..... 10

 Foundation Bearing Capacity, Settlement, and Design..... 10

 Soil Infiltration Rate Testing/Determination..... 10

 Low Impact Design 11

 Slope Stability Evaluation..... 11

 Construction Inspection Services 11

 B.3.Environmental Expertise 11

 Site Characterization and Remediation 11

 Emergency Response Services 12

 Environmental Sampling 12

 Property Investigations 12

 PFAS..... 12

 Water Quality Services 12

 Hazardous Building Material Surveys (HBMS) 13

 Permitting 15

 Documentation and Reporting 15

C References, Related Experience and Examples of Work.....16

 C.1.Relevant Project Experience 16

D Hourly Billing Rates28

 Terraphase 2025 Standard Schedule of Charges with 10% Discount/10% ODC 28

Appendices

- A Key Personnel Resumes

A Description of Organization, Management and Team Members

A.1. Description of Firm

Terraphase Engineering Inc. (Terraphase) opened for business in Oakland, California, in September 2010. We have grown from four founding principal engineers and scientists to a staff of over 150 in 14 offices. We are majority owned by residents of the Bay Area. We participate in local community building organizations and donate to locally-based non-profit organizations. This is our community also, and we want to help the City succeed for our collective benefit.



Terraphase is a City of Oakland Local Business Enterprise (#7235), a non-certified Alameda County Local Business Enterprise, and a State of California-certified small business for public works projects (SB-PW #1469260). We have a California "Class A" General Engineering Contractor License and Hazardous Substances Removal Certification (#960398). Terraphase holds the following licenses/certifications in the state of California and nationally (as applicable):

- Licensed Civil Engineer
- Licensed Geotechnical Engineer
- Professional Geologist
- Certified Engineering Geologist
- Certified Hydrogeologist
- Certified Floodplain Manager (CFM)
- Certified Asbestos Consultant (CAC)
- Certified Lead-Related Inspector/Assessor
- Construction Site Safety Technician (CSST)
- Qualified SWPPP Developer (QSD), Practitioner (QSP), and Trainer of Record (ToR)
- Certified Asbestos Site Surveillance Technician (CSST)
- Qualified Industrial Stormwater Practitioner (QISP) and ToR
- Certified Professional in Erosion and Sediment Control (CPESC)
- Certified Construction Manager (CCM)

Terraphase provides comprehensive geotechnical services including investigation, design of foundations, design of slope repair systems, road and parking lot design and expert witness services. Ninety percent of our technical staff have received hazardous waste operator and Emergency Response (HAZWOPER) training and can provide geotechnical investigations and oversight on contaminated sites. Terraphase has purchased a Troxler E-Guage (Model 4590) and can now provide compaction control of soil and asphalt with a nuclear gauge that does not require California Department of Health Licensing so there will be no radiation warning signs on our vehicles.

In addition to geotechnical engineering, Terraphase staff can provide hazardous materials assessment, Phase 1 environmental site assessments, Phase 2 environmental site investigations, design and implementation of soil and groundwater remediation, open-water sediment sampling and characterization, flood control planning and design; stormwater management planning, design, and implementation; Clean Water Act (CWA)/National Pollutant Discharge Elimination System (NPDES) compliance/permitting support; erosion and sediment control planning/design; hydrologic/hydraulic modeling; and watershed management and analysis services at the City's geotechnical projects.

A.2. Approach

Terraphase is a full-service geotechnical engineering firm that can provide many of the geotechnical services described in the City's Request for Proposals (RFP). We would subcontract with the Cooper Geotechnical Laboratory of Palo Alto, California for specialized geotechnical laboratory testing (e.g., triaxial testing, R-Value, corrosion susceptibility).

Our approach to geotechnical engineering projects typically follows this process:

Identification and assignment of staff with necessary specialized technical expertise: At the project onset, Terraphase's Project Manager (PM) will evaluate the project requirements and the workload of staff with the necessary expertise to ensure client needs are met. Should Terraphase identify an "overload" for a team member who possesses a key skill, we will evaluate whether other, less technically advanced efforts can be transitioned to

**PROPOSAL FOR ON-CALL GEOTECHNICAL ENGINEERING
AND CONSTRUCTION TESTING SERVICES
CITY OF ALAMEDA, PUBLIC WORKS DEPARTMENT**

another team member to ensure availability of the capabilities needed. Additionally, we will evaluate team capabilities in order to ensure overlapping skills – facilitating peer review, when appropriate, and further ensuring that the team has a collaborative understanding of the project and the ability to perform should a team member's absence occur.

Assessment of available information regarding the site: The next step in any geotechnical investigation is to assess existing data. Sources of data we routinely assess prior to beginning a geotechnical investigation are historical aerial photographs (Figure 1), environmental reports (Figure 2) historical topographic maps (Figure 3) as well as our library of 2,700 geotechnical reports prepared by Terraphase and other geotechnical engineering consultants. Valuable information can be found in publicly available reports such as the depth to bedrock (Figure 4) and geological maps (Figure 5). Other sources of information include the Natural Resources Conservation Service Web Soil Survey, Caltrans, and the California Geological Survey (for earthquake faults, liquefaction hazard (Figure 6) and historical earthquakes).



Figure 1 – Oakland 1939 from the UC Santa Barbara Aerial Collection

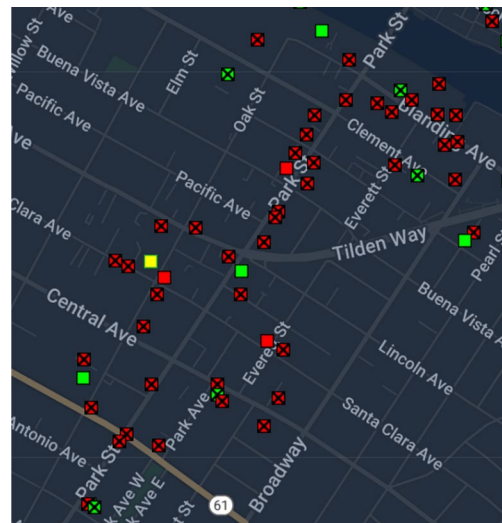


Figure 2 – Environmental Reports Available Photograph from the Water Board



Figure 3 – Alameda 1915 (USGS 15-minute Map)

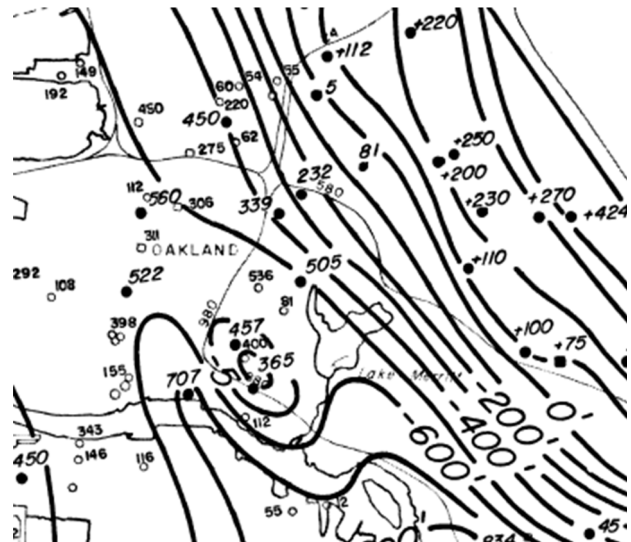


Figure 4 – Top of Bedrock Depth Topographic Map

**PROPOSAL FOR ON-CALL GEOTECHNICAL ENGINEERING
AND CONSTRUCTION TESTING SERVICES
CITY OF ALAMEDA, PUBLIC WORKS DEPARTMENT**

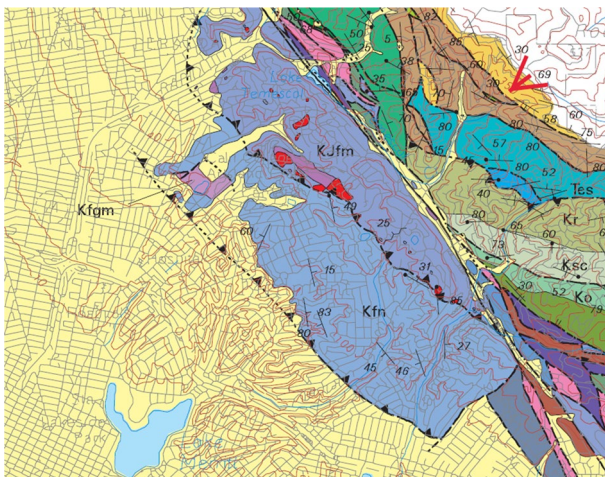


Figure 5 – Geologic Map (Graymer, Jones & Brabb, 1990)

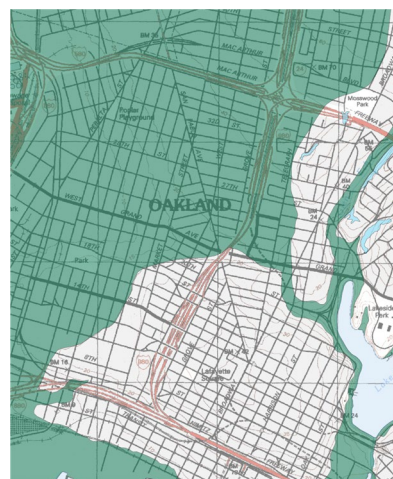


Figure 6 – Liquefaction Hazard Zones (green)

Stereo pairs of photographs can be manipulated to form anaglyphs (Figure 7). Anaglyphs are particularly useful for assessing pre-existing topography and for locating pre-existing landslide features. Figure 7 is for a site in San Rafael where a very large cut was made into the hillside prior to Site development. Terraphase is currently performing the initial geotechnical investigation for the site. Based on the aerial photographs, anaglyphs, and historical topography it appears the Site is almost entirely on bedrock except the far eastern side of the site which appears to be on fill. Based on our initial investigation, we have proposed an economical site investigation that will not miss the potential fill on the far western side of the site.

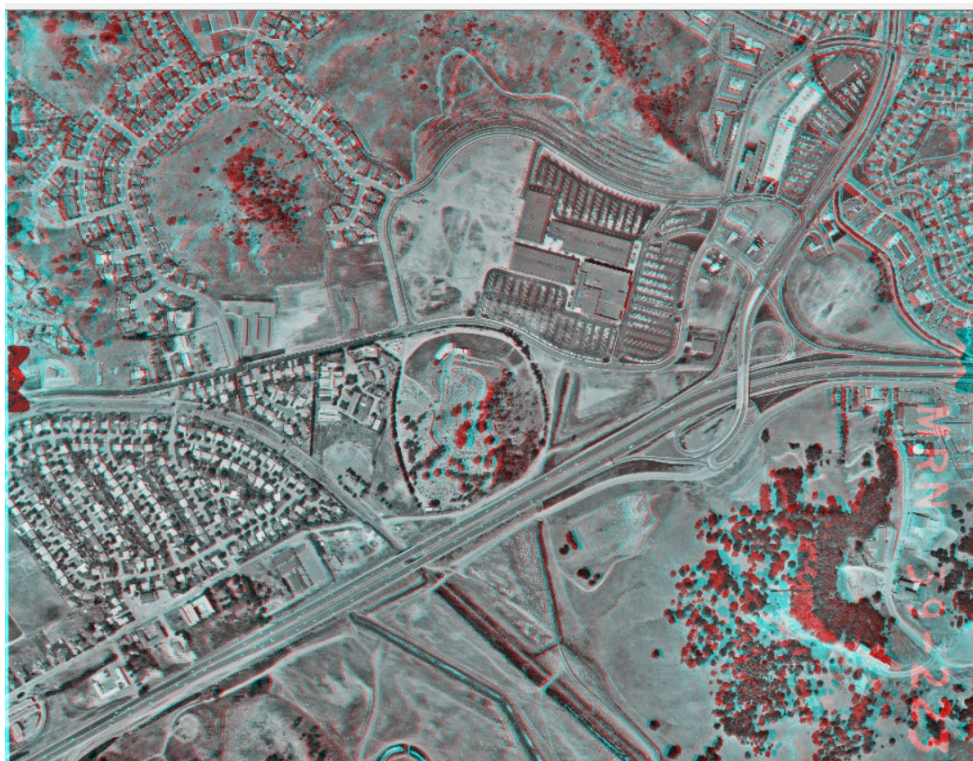


Figure 7 – Anaglyph Image of San Rafael (1965 Aerial)

**PROPOSAL FOR ON-CALL GEOTECHNICAL ENGINEERING
AND CONSTRUCTION TESTING SERVICES
CITY OF ALAMEDA, PUBLIC WORKS DEPARTMENT**

Based on the information available, we generally know the soil type, depth to groundwater, depth to bedrock and potential for liquefaction and earthquake induced landslides at each location in Oakland before planning the investigation.

Project Management, Communication Cost Control: Our approach is to listen to and understand the City's overall project objectives, cost constraints, and schedules to deliver the product that the City has asked for. Terraphase has been working with the City of Alameda since 2018. The assignment of Andrew Romolo, PG as the project's Client Director and Emily Mosen, PG, as the Project Manager will ensure that project management and accounting expectations will continue to be met. **We maintain project cost control using our internal project management and cost accounting system (Ajera).** This system provides PMs with real-time updates on project costs and expenses to help track spending and to ensure that the work scope is done within budget. **In order to develop the project schedule and to provide timely updates to the City should hindrances arise, Terraphase's PMs utilize Microsoft Project software.**

Safety Program: The health and safety (H&S) of our workers, clients, and surrounding communities is paramount to our work. Our commitment to job safety extends beyond our own employees, to our subcontractors, our clients, and the community. The Terraphase H&S team includes a mix of certified safety professionals and project managers, resulting in a very practical H&S program that follows, and often exceeds, Occupational Safety and Health Administration (OSHA) and industry standards, while still allowing our projects to be run efficiently and cost-effectively. Our staff complete the industry-required OSHA and Department of Transportation (DOT) training courses, as well as other safety courses that provide the tools necessary to safely plan and implement projects. Our staff are expected to follow the Terraphase safety standards in the office, on the road, and at our job sites. Terraphase strongly believes in the Stop Work Authority program, which empowers all workers to shut down efforts if unsafe conditions exist. Our staff are trained to follow specific H&S procedures to help assess potential risks and mitigate recognized hazards through effective risk management. We encourage the reporting of near-misses and recognize their importance in the prevention of job-site incidents. Site-specific health and safety plans (HASPs) are also a component of Terraphase's H&S policy and are required for any project that involves fieldwork. Our site-specific HASPs are written in general accordance with OSHA standards, 29 Code of Federal Regulations Subsection 1910.120 for Hazardous Waste Operations and Emergency Response (HAZWOPER) sites, as appropriate, based on size and length of the project.

Quality Control (QC): Strict adherence to QC procedures will be followed to provide an accurate and defensible work product. Key to our geotechnical engineering approach are rigorous procedures that call for **several QC steps: 1) the individual doing the work checks their product before submitting it to our internal reviewer; 2) our senior reviewer makes comments, which need to be addressed; 3) the individual doing the work addresses the comments (and consults with the reviewer should clarifications be needed); and 4) the reviewer backchecks the final product to ensure that all comments have been appropriately addressed.** QC also includes the development of a sound and defensible approach to conducting field work, providing clear direction to technical staff, and validation of the accuracy of assumptions, conclusions, and recommendations in our final reports. **Terraphase typically collects field data in e-format using an iPad to minimize error and time spent transcribing field data,** preparing immediately transmittable field reports that can include photographs and video. Field data are uploaded to the Cloud in real time, which means the data will never be lost and can always be shown to be unedited.

Management and Quality Control of Quick Turnaround Projects

Peer review is a required element of Terraphase's quality assurance program. Terraphase requires that the project manager indicate by name the peer reviewer for the project at the time the project is opened. A senior principal at Terraphase assesses the peer reviewer selected and verifies that the peer reviewer is qualified to perform the peer review. All deliverables are required to be edited by a professional technical editor to assure a readable project with as few typographical errors as practicable.

An advantage of Terraphase is that we can quickly mobilize to meet with Alameda staff for site visits and can address any changes in project requirements or unexpected circumstances. In addition to our locally available resources,

PROPOSAL FOR ON-CALL GEOTECHNICAL ENGINEERING
AND CONSTRUCTION TESTING SERVICES
CITY OF ALAMEDA, PUBLIC WORKS DEPARTMENT

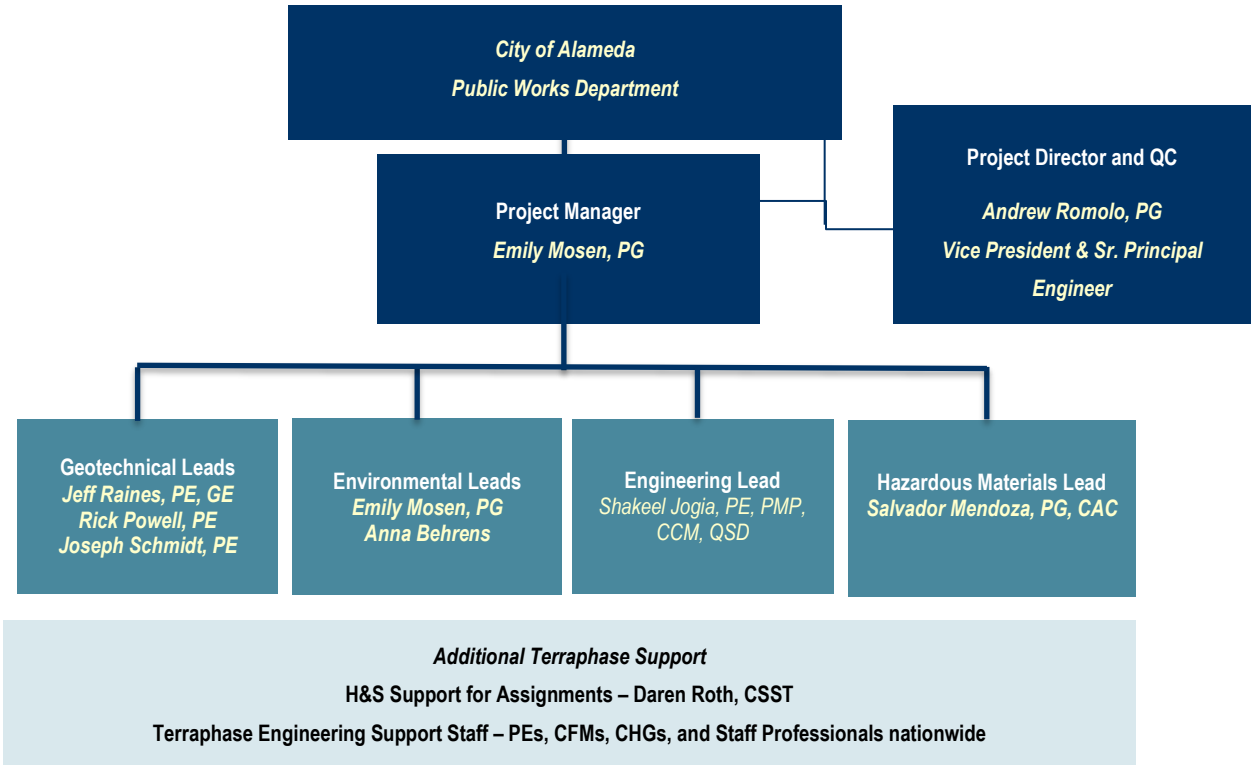
particularly important to successfully performing quick turnaround projects is the assignment of the right staff for the work and time commitment of these individuals. Terraphase has closely evaluated our staff workload and we can readily commit our identified team (as refined based on task assignments). Further, we emphasize the integration of team members with overlapping capabilities and a communication approach that assures that the work can readily proceed with alternative staff, should scheduling constraints arise. Our team members’ experience working on past efforts (as demonstrated by our project descriptions in Section 4) ensures a strong understanding of each other’s capabilities and responsibilities. Utilizing our local Bay Area team, we can provide timely and responsive service for projects that must be completed on short notice and within a short time frame due to funding constraints, public safety, coordination issues with construction projects, or the need for emergency services.

A.3. Project Personnel

A team organization chart and qualifications for personnel proposed under this contract are presented below. Full resumes are included in Appendix A.

Firm and Team Organizational Charts

The following organization charts show the structure of Terraphase and the project team for this contract. This contract will be managed and staffed out of our Oakland office, with additional support from our other offices as needed.



**PROPOSAL FOR ON-CALL GEOTECHNICAL ENGINEERING
AND CONSTRUCTION TESTING SERVICES
CITY OF ALAMEDA, PUBLIC WORKS DEPARTMENT**

Project Director and Project Manager's Qualifications

Project Director. Andrew Romolo, PG (CA), Senior Principal Geologist / 25+ years' experience

Mr. Romolo is one of the founding partners of Terraphase and has more than 25 years of experience working as a geologist in the engineering and environmental consulting industry. He is a registered professional geologist in the State of California and has worked on projects throughout California, New York, and New Jersey, including various brownfield redevelopment projects. He has extensive experience in the characterization and remediation of a wide range of contaminants, including chlorinated solvents, metals, and technologically enhanced naturally occurring radioactive materials (TENORM). Mr. Romolo has attended numerous public participation meetings, including Community Advisory Group meetings in which he has co-presented with the regulatory agency. He also attends and presents to City Council meetings, including the City of Alameda.



Mr. Romolo has served as the Project Director for the City of Alameda since 2018, including consulting contracts with the Base Reuse and Economic Development, Transportation, and Public Works departments. He regularly interfaces with regulatory agencies, developers, utilities, site occupants, and community member groups.

Project Manager. Emily Mosen, PG (CA), Senior Associate Geologist / 14 years' experience

Ms. Mosen has led environmental investigation and monitoring activities involving groundwater, soil, soil gas, indoor and outdoor air, and process wastes. She manages field activities, obtains permits, prepares work plans and technical reports, and communicates with representatives of regional, state, and federal regulatory agencies. She has served clients in the government, energy, industrial, transportation, school, and real estate development sectors. Her site investigation experience includes planning, implementation, and reporting. She has prepared numerous characterization reports, which require close coordination with analytical laboratories and the Terraphase graphics and database teams to evaluate data against site-specific, state, and federal screening criteria, and conduct statistical analysis of the data. Ms. Mosen serves as Project Manager for Terraphase's existing contracts with the City of Alameda, including the Base Reuse and Economic Development, Transportation, and Public Works departments. Ms. Mosen is the client director for Terraphase's environmental consulting contract with the Suisun Bay Reserve Fleet, which is managed by the U.S. Department of Transportation's Maritime Administration.



Ms. Mosen has prepared Quality Assurance Project Plans (QAPPs) that establish Data Quality Objectives (DQOs) and associated procedures for achieving technical accuracy, precision, and validity of environmental data generated during projects such as soil and groundwater investigations, treatability studies, and comprehensive characterization of buildings and underlying soil and soil gas.

Key Personnel

Geotechnical Expert. Jeff Raines, PE, GE, Senior Principal Geotechnical Engineer / 40+ years' experience

Mr. Raines has over 40 years of experience in civil, geotechnical, and environmental engineering. He is a registered geotechnical engineer and civil engineer in California. He has extensive experience in the design of shallow and deep building foundations, large excavations, excavations of environmentally-impacted soils, earth retaining structures, and slope repair. He has provided expert witness services for six landslide cases in Northern California. He was an



**PROPOSAL FOR ON-CALL GEOTECHNICAL ENGINEERING
AND CONSTRUCTION TESTING SERVICES
CITY OF ALAMEDA, PUBLIC WORKS DEPARTMENT**

expert witness, representing the prime contractor, for the Millennium Tower sinking matter in San Francisco.

Mr. Raines designed and was the engineer of record for a petroleum-impacted soils excavation project in the High Sierra. The project was located on a steep slope above Highway 80 and below a high-pressure gasoline pipeline. The work required the installation of soldier piles through a boulder field into Sierra Nevada granite and the installation of tiebacks below the high-pressure gasoline pipeline.

He was the engineer of record for the construction of a \$130 million pipe mill constructed over Bay Mud in Pittsburg, California. The project involved preloading of the foundation soils with wick drains because of the unusually high floor loads inside the pipe mill. The selected foundation consisted of both piles and spread footings for economy.

Geotechnical Engineering. Rick Powell, PE / 30 years' experience

Rick has over 30 years of geotechnical consulting experience, including foundation building design, landslide evaluations and repair, seismic evaluations, peer reviews, review of construction specifications and bid reviews, emergency evaluations, and other forms of consultation as requested by his clients. Prior to becoming an engineer, Rick worked for several years in the construction field on governmental, commercial, and residential projects. His familiarity with the construction industry has given him the uncommon ability to recognize and implement economical solutions to complex problems.



Geotechnical Engineering. Joseph Schmidt, PE (WA) / 11 years' experience

Joseph Schmidt is an Associate Geotechnical Engineer with 11 years of professional experience. He has extensive experience on a variety of public works, industrial, commercial, municipal, and residential projects. Joe's design experience includes gravity and MSE retaining walls, deep and shallow foundations, pavement sections, and reinforced slopes. Joe has experience developing, conducting, and managing subsurface investigation and laboratory testing programs used to assess soil and groundwater conditions and produce engineering parameters. The results of these subsurface investigation laboratory testing programs are vital to the development of foundation design and stormwater management plans.



Engineering, Specifications, Permitting, and Construction Management Technical Expert. Shakeel Jodia, PE (CA), PMP, CCM, Principal Engineer / 25 years' experience

Mr. Jodia is a civil engineer and program manager with 25 years of experience in leading delivery of challenging civil infrastructure and environmental remediation engineering and construction programs with intensive stakeholder outreach, including: design of water conveyance and treatment facilities, sea level adaptation shoreline protection measures, green infrastructure/stormwater conveyance and treatment improvements, site planning and design, and construction program management and quality administration for complex civil engineering and construction programs. Mr. Jodia leads Terraphase's Site Engineering Service Area, covering the company's site civil engineering, geotechnical engineering, stormwater infrastructure design, and construction project management services. Mr. Jodia has led and delivered engineering and construction projects using Design-Bid-Build, Design-Build, Multiple-Prime, Construction Management At Risk (CMAR), and Engineering Procurement Construction (EPC) delivery models.



**PROPOSAL FOR ON-CALL GEOTECHNICAL ENGINEERING
AND CONSTRUCTION TESTING SERVICES
CITY OF ALAMEDA, PUBLIC WORKS DEPARTMENT**

Environmental Investigation Task Leader. Anna Behrens, Associate Scientist / 13 years' experience

Ms. Behrens has 13 years of experience in environmental consulting, with expertise in site characterization, in-situ remediation, and industrial waste management. Her experience includes development of SMPs for multiple complex sites, and she was a key contributor to the EBMUD Trench Soils Master Plan. Ms. Behrens manages and oversees field activities related to numerous site investigation and remediation projects, and provides cost estimating, permitting and project planning services.



Hazardous Building Materials Task Leader. Salvador (Sal) Mendoza, PG, AHERA BI, MP, PD / 20 years' experience

Sal has over 20 years of consulting experience related to asbestos and lead management and hazardous materials consulting. He has over 20 years experience as an OSHA certified asbestos consultant and a lead-related inspector/assessor. As the HBMS (i.e., ACMs, LBP, mold, radon, mercury flooring, etc.) Group Leader, his duties involve technical review of work scopes and of all technical work product in addition to supervising and mentoring junior staff. Sal has experience working with local, state, and federal regulatory agencies regarding information associated with hazardous building material use, abatement, and disposal throughout the western states. He has negotiated and coordinated with local, state, and federal regulatory agencies, as well as local air quality management districts. Sal has assisted with the preparation of work scopes and provided technical review of work product on all recent HBMSs conducted in the Pacific NW. He is highly qualified and responsive to client requests for HBMS assistance. His experience includes office buildings, residential buildings, commercial buildings, schools, and industrial buildings.



B Organization Qualifications

B.1. Approach to Delivering Collaborative Solutions for Complex Projects in Coordination with City Staff, Community Groups, and Other Stakeholders

Terraphase routinely works cooperatively with cities, counties, and state government on on-call as-needed projects around the Bay Area that are similar to those tasks listed in the RFP, including existing contracts with the City of Alameda since 2018. Our proposed project director, **Mr. Andrew Romolo, PG**, has attended numerous public participation meetings, including Community Advisory Group meetings in which he has co-presented with the regulatory agency. He has attended and provided presentations to City Council meetings in City of Alameda, and has participated on behalf of the City at the community's Restoration Advisory Board meetings which pertain to the reuse of Former Naval Air Station Alameda (Alameda Point).

Mr. Jeff Raines, PE, GE, Vice President and Senior Principal Geotechnical Engineer, has led a team of engineers, geologists, and field technicians in providing task-based geotechnical engineering consulting services to the City of Oakland. Mr. Raines's oversight will ensure responsiveness and collaborative consideration of regional stakeholder issues.

Our design philosophy stresses the importance of building consensus early among stakeholders, including key resource permitting agencies to avoid unnecessary replanning or redesign in a project. **Mr. Shakeel Jogia, PE, PMP, CCM, QSD**, has extensive experience in collaborative project development, including work in highly regulated settings.

**PROPOSAL FOR ON-CALL GEOTECHNICAL ENGINEERING
AND CONSTRUCTION TESTING SERVICES
CITY OF ALAMEDA, PUBLIC WORKS DEPARTMENT**

B.2. Geotechnical Expertise

Terraphase offers cost-effective solutions to complex engineering challenges. We apply technical expertise and keen awareness of current development standards to achieve our clients' project goals and objectives. The combined talent and experience of Terraphase's geotechnical engineers and geologists form the foundation for a comprehensive project approach.

In support of our clients' capital improvement projects, Terraphase has provided consultation for numerous roads and pavement designs, culverts, sidewalks, multi-use pathways, utilities, embankments, mechanically stabilized earth (MSE) walls, shoring systems, and foundations.

Terraphase is a full-service geotechnical engineering firm with expertise in:

- Geotechnical investigations
 - Mud Rotary
 - Rotosonic
 - Hollow and Solid Stem Augers
 - Cone Penetration Testing
- Caltrans Flexible Pavement Design Methodology
 - Roads
 - Parking Lots
- Slope Repair
 - Forensic Slope Analysis
 - Slope Repair Design
 - Groundwater Control
- Retaining Walls
 - Soldier Beam and Lagging
 - Mechanically-Stabilized Earth
 - Tiebacks and soil nails
- Shotcrete Seismic Hazard Assessments
 - Ground Motions
 - Ground-Crossing Fault Assessment
 - Liquefaction Assessment
- Foundation Design
 - Shallow Foundations
 - Mat Foundations
 - Deep Foundations
 - Piles
 - Cast-in-Drilled Hole
- Ground Improvement
 - GeoPiers
 - Stone Columns
 - Cement/Lime Stabilization
- Geotechnical Laboratory
 - Sieve and hydrometer analysis.
 - Moisture content
 - Density
 - Proctor tests
 - Atterberg limits
 - Sand equivalent
 - Specific gravity and absorption
 - Direct shear
 - Consolidation
 - Hydraulic conductivity/permeability

Terraphase can provide the full gamut of geotechnical engineering services. Our experts have extensive experience with:

- Geotechnical feasibility studies
- Seismic hazard studies
- Liquefaction settlement estimates & mitigation
- Ground improvement
- Slope stability studies
- In-house geotechnical laboratory testing
- Geotechnical Peer review
- Construction monitoring and density testing
- Recommendations for Mass Excavations
- Infiltration feasibility and testing
- Geologic assessments
- Foundation design
- MSE Wall Design
- Pile Capacity Analysis
- Pavement design
- Excavation dewatering
- Subsurface risk analysis

**PROPOSAL FOR ON-CALL GEOTECHNICAL ENGINEERING
AND CONSTRUCTION TESTING SERVICES
CITY OF ALAMEDA, PUBLIC WORKS DEPARTMENT**

Our geotechnical engineers and geologists are specialists in the geologic hazards of the Bay Area and have experience throughout California and the west coast. We have the expertise to recognize potential site issues and address them before they become construction problems. We have a keen understanding of how geologic hazards can potentially impact existing and proposed projects.

From the geotechnical engineering report through plan review, we evaluate potential constructability issues and work with the project design team to find practical solutions.

Geotechnical Evaluations

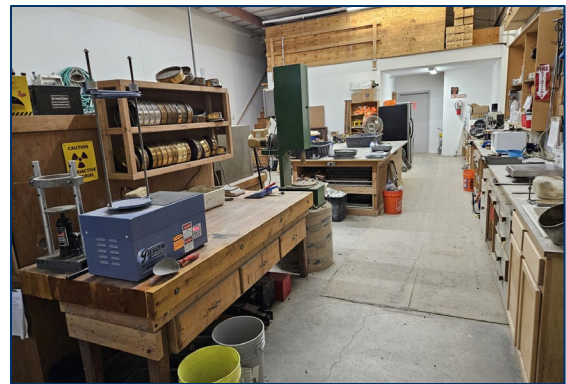
Soil Sampling / Subsurface Investigation

Terraphase has the equipment in-house to hand auger and perform density cone penetrometer tests (DCPTs) up to 20 feet in suitable materials. For drilling to greater depths, placing large-diameter casings, or penetrating dense materials, we work with a wide range of drilling contractors capable of direct-push, auger, sonic, cable-tool, and air- and mud-rotary drilling. When appropriate shallow test excavations are utilized to provide budget efficiencies. Additionally, test pits provide a full picture of the upper soil strata which enables Terraphase to provide a more accurate estimate of stripping depths which can have significant impacts on project budgets. We also work with subcontracted excavating contractors and with municipal crews, when possible, for cost efficiency when performing infiltration feasibility and testing.

In-house Geotechnical Laboratory

Terraphase maintains an in-house laboratory equipped to evaluate the properties and characteristics of soil in accordance with ASTM standards. Typical tests performed include:

- moisture content
- grain size analysis
- hydrometer
- Proctors (moisture/density relationships)
- Atterberg Limits
- direct shear
- permeability



Terraphase Geotechnical Laboratory

Foundation Bearing Capacity, Settlement, and Design

Based on our review of existing data in the area, subsurface explorations, and laboratory testing, we typically complete engineering analyses for a project to determine the project-performance level with different options for site development. This includes presentation and design of various retaining wall choices, and foundation alternatives. Geotechnical recommendations are provided for all phases of the project, with specific recommendations for site development.

Soil Infiltration Rate Testing/Determination

Terraphase provides infiltration stormwater design per current applicable stormwater manuals and in accordance with local jurisdiction codes. These services are often performed with a two-phase design approach with the project civil engineer. The first phase of explorations evaluates the depth to groundwater or impermeable surface. Field and/or laboratory tests are then run after consultation with the civil engineer to determine the appropriate type of infiltration facility and develop a test program. The test program can range from grain-size analysis to full-scale pilot infiltration tests. Additionally, we can provide construction phase verification testing of infiltration facilities to ensure performance is in accordance with project designs.

**PROPOSAL FOR ON-CALL GEOTECHNICAL ENGINEERING
AND CONSTRUCTION TESTING SERVICES
CITY OF ALAMEDA, PUBLIC WORKS DEPARTMENT**

Low Impact Design

Terraphase has provided consultation on a variety of low impact design, or low impact development (LID) projects. We have provided design recommendations for BMPs, including bio-retention, rain gardens, permeable pavement, and reinforced slopes/soil walls with a vegetated face.

Slope Stability Evaluation

Our geotechnical engineers and geologists have a keen understanding of how geologic hazards can potentially impact existing and proposed projects. We analyze global stability using Slide2, a two-dimensional limit equilibrium slope stability program for evaluating the safety factor or probability of failure of circular or non-circular failure surfaces in soil or rock slopes.

Terraphase has extensive experience conducting slope stability evaluations throughout the Bay Area and providing recommendations to maintain and/or improve stability.

Construction Inspection Services

Terraphase provides a wide range of construction related services to verify contracted work is completed to project specifications. Earthworks are our specialty including soil compaction, site stripping, and foundation sub-grade preparation. We focus on good communication between our in-house personnel, the contractor, and the owner, which is key to a successful project. We maintain an in-house laboratory equipped to evaluate the properties and characteristics of soil, completed in accordance with ASTM standards. Properly describing the soil allows our engineers to scientifically analyze the planned improvements within the underlying soil and groundwater conditions.



B.3. Environmental Expertise

Terraphase is skilled in a wide range of environmental services that support the evaluation, remediation, and restoration of contaminated sites. We have extensive experience in evaluating hydrogeologic and geochemical conditions and water quality issues including metals and organics. Collectively, these capabilities are critical to evaluating potential adverse effects to the environment and to fate and transport considerations. We routinely integrate and interpret environmental data in support of state and federal environmental programs, remedial investigations, and property transfer evaluations. We are well versed in environmental compliance and remediation alternatives and have established relationships with regulatory agencies.

Site Characterization and Remediation

Our scientists have characterized contaminated sites ranging in size from small building interiors to large brownfield redevelopments. Where complex contaminant issues are identified, we perform feasibility studies to define and evaluate remedial alternatives under CERCLA regulations. Our project deliverables clearly communicate the nature, extent, fate, distribution, and possible effects of contamination originating from the site.

Terraphase maintains standing relationships with key regional response contractors, allowing us to quickly mobilize resources needed to control and contain hazardous material releases.

Once the contaminant source is identified, we can recommend source control actions to mitigate ongoing “re-contamination” from that source. We also have extensive experience in designing and implementing post remediation environmental monitoring investigations to ensure the continuing effectiveness of the remedy.

PROPOSAL FOR ON-CALL GEOTECHNICAL ENGINEERING
AND CONSTRUCTION TESTING SERVICES
CITY OF ALAMEDA, PUBLIC WORKS DEPARTMENT

Emergency Response Services

Terraphase offers 24-hour emergency response services, supported by senior staff with direct experience in hazardous materials incidents. Our team provides rapid response management, scientific support, emergency planning, and exposure assessments.

Environmental Sampling

We have broad sampling capabilities and experience including surface and subsurface soil and sediment sampling, groundwater sampling, surface water sampling, asbestos and lead paint sampling, and indoor and outdoor air sampling. We are adept at using all manner of hand and mechanical sampling equipment. In order to provide rapid response, we maintain in-house a wide range of sampling and monitoring instruments to support geologic, hydrogeologic, and environmental explorations.

Property Investigations

Terraphase produces high quality due-diligence documents for a wide variety of clients including banks, developers, public agencies, industries, residential landowners, and tribes. Our Phase I Environmental Site Assessments (ESAs) are performed in compliance with All Appropriate Inquiry ASTM E1527-21 guidance and represent a key foundation for property transfer decision making. We also routinely perform asbestos, lead, and other inspection services. In addition, our firm is recognized for performing environmental subsurface investigations and generating robust Phase II documents that resolve the contamination issue, help to pinpoint our client's options for achieving regulatory compliance, and reduce the potential for environmental liability. We are particularly adept at interpreting environmental data, performing appropriate quality management measures, and developing critical conclusions and recommendations regarding the best course of action for a particular site.

PFAS

Terraphase designs and implements site investigations to identify PFAS sources, determine the nature and extent of PFAS in different media, and provide data to characterize the fate and transport of PFAS. Our experience includes sampling and analysis of PFAS in groundwater, soil, surface water, sediment and porewater, often with an evaluation on the significance of the potential for adverse effects to human health and ecological receptors as applicable and particularly for PFAS, the state of the science with respect to effects data.

With the progression towards more stringent health-based thresholds for PFAS, Terraphase understands the critical need to implement sampling techniques that avoid cross-contamination, and to select analytical laboratories that can achieve low detection limits.

Water Quality Services

Our experts have performed numerous evaluations of potential environmental issues associated with groundwater and surface-water impacts related to industrial activities, including mining and rock quarry operations. We have evaluated seawater intrusion, metals contamination, and a wide range of water quality issues. Findings from our environmental investigations are routinely incorporated into NEPA/SEPA EIS documents, NPDES permits, and a wide range of other environmental and water quality-based permits.

**PROPOSAL FOR ON-CALL GEOTECHNICAL ENGINEERING
AND CONSTRUCTION TESTING SERVICES
CITY OF ALAMEDA, PUBLIC WORKS DEPARTMENT**

Hazardous Building Material Surveys (HBMS)

Terraphase offers a wide range of regulated building material services to help our clients make informed business decisions during site development, renovation and modernization, and demolition. Our accredited practitioners provide assessment services in compliance with EPA and Occupational Safety and Health Administration (OSHA) regulations, California Department of Occupation Safety and Health Administration (Cal/OSHA), and local Air Quality Management Districts (AQMDs) to properly manage the disturbance or removal of substances considered hazardous in building materials, including asbestos-containing materials (ACMs), lead-based paints (LBP), polychlorinated biphenyls (PCBs), mold, radon, and other regulated materials while protecting workers and building occupants. Terraphase has provided these services to a number of public agencies, municipalities, and schools, as well as to the private sector.

HBMSs conducted by Terraphase typically include inspection and/or sampling for ACMs, LBPs, PCBs, and mercury-containing electrical equipment in reasonably accessible building areas. Projects have also included indoor air quality evaluations.

However, surveys can also include mold, bacteria, radon, or other hazardous chemicals. HBMS risk assessments can be performed to determine the sources of asbestos, lead, and radon and their likely mitigation options.

Terraphase will provide the City with leadership in asbestos consulting and other key areas, including PCB ballasts, chemicals, light tubes, LBP and mold assessments, indoor air quality, water quality, and data management and reporting to achieve consistency and accuracy in all work performed. We pledge to work as a teaming partner with the City, not simply as a consultant.

Asbestos Surveying, Sampling, and Reporting: With more than 20 years of asbestos-related consulting experience throughout the western region (Washington, Oregon, California, and Nevada), Terraphase has experience conducting supplemental asbestos surveys and bulk sampling of suspected ACMs. Terraphase makes every effort to sample suspected ACMs from discrete locations or from areas with existing damage so that data gaps like presumed or assumed ACMs are avoided in the survey reports. The following summarizes our typical survey methods:

- Suspect ACMs will be quantified, assessed for condition (intact, damaged, or significantly damaged), and classified as Thermal System Insulation (referred to in the asbestos industry as TSI), surfacing, or miscellaneous materials.
- Representative bulk sampling of suspected ACMs identified at the subject property in accordance with applicable National Emissions Standards for Hazardous Air Pollutants (NESHAP) requirements for pre-renovation and/or comprehensive demolition level surveys. The quantity of samples necessary to test suspect building materials will be determined while onsite and will be performed according to AHERA and the NESHAP guidelines.
- Submittal of bulk samples of suspected ACMs under strict chain-of-custody documentation to a National Voluntary Laboratory Accreditation Program (NVLAP) accredited laboratory for asbestos analysis by Polarized Light Microscopy.
- The asbestos survey(s) will be performed by properly licensed and experienced professionals, including AHERA accreditations.

Terraphase has completed hundreds of comprehensive pre-demolition surveys. Comprehensive surveys usually include the entire building, from the foundation to the roof. The purpose of a PDA survey is to determine whether ACMs are present in the building prior to demolition activities being conducted, as required by the local

Terraphase's Asbestos Hazard Emergency Response Act (AHERA) accredited and experienced staff have worked with a number of abatement contractors to develop cost-effective approaches for renovation and demolition projects that required abatement of ACMs and LBP and include option for reuse, recycling, and treatment disposal options.

**PROPOSAL FOR ON-CALL GEOTECHNICAL ENGINEERING
AND CONSTRUCTION TESTING SERVICES
CITY OF ALAMEDA, PUBLIC WORKS DEPARTMENT**

regulatory authority, and regulated by the EPA. PDA surveys are typically conducted after the building has been vacated, and destructive sampling techniques are employed (i.e., using hand tools to assess wall cavities, attics, and utility vaults for suspected ACMs). PDA surveys typically do not require patching the areas that were sampled. Terraphase can also conduct pre-renovation level Path of Construction (POC) asbestos surveys. The purpose of a POC asbestos survey is to assess limited areas of a building that will be impacted by a renovation activity. A POC asbestos survey includes sampling from discrete locations for buildings that are to remain occupied. POC asbestos surveys are typically conducted after-hours and samples are collected from areas already exhibiting damage or from areas not visible to occupants (i.e., behind doors near hinges, above drop-in ceiling tiles, from within closets, etc.). Sample locations can be patched for POC asbestos surveys, but finishes are not expected to be returned to their pre-sample condition.

Underground utilities are typically assessed for what is readily visible from the ground surface. Utilities that can readily be identified from existing information provided by the client or observed in the field that likely contain asbestos will be identified as requiring abatement during demolition or requiring additional investigation to determine status during the demolition activities. Specific efforts beyond hand movement of utility covers are not considered safe and therefore are excluded from sampling until the utilities are confirmed by the City to be inactive and/or de-energized.

XRF analysis is an excellent tool for quantitative and qualitative measurements on large projects. Terraphase regularly uses the Niton XL5 Analyzer because this type of XRF unit does not have a radioactive isotope, making it safer for the user.

Lead-Based Paint Surveying, Sampling, and Reporting: The majority of HMBSs conducted by Terraphase include the collection of bulk paint chip samples for lead analysis. Paint chip samples are collected to assess the lead content in various types of paint and coatings. Terraphase often uses handheld X-ray fluorescence (XRF) spectroscopy units. The XRF units are a non-destructive analytical technique used to immediately determine the lead concentrations.

The United States Department of Housing and Urban Development (HUD) and the EPA define LBPs as paints containing greater than 0.5 percent lead by weight, and/or 5,000 parts per million (ppm) as analyzed by Atomic Soil-Lead Absorption Spectrometry, and/or lead greater than 1 milligram per square centimeter as analyzed by an XRF unit. OSHA considers any amount of detectable lead to be regulated under 29 CFR 1926.62(a), which applies to all construction work where an employee may be occupationally exposed to lead¹. As a result, Terraphase defines a Lead-Containing Paint (LCP) as a paint or coating that contains any amount of lead to be consistent with the OSHA standards.

Worker and environmental protection requirements apply to all construction activities that may disturb any LCP. Precautions must be taken during demolition activities in accordance with regulations to address worker safety and protection of human health and the environment. Worker exposure, public health, and waste characterization are issues of concern when working with LCP during building demolition. When workers may be exposed to lead, it is the employer's responsibility to ensure that work practices are in accordance with Cal/OSHA's Title 8, Section 1532.1 and California Department of Public Health's (CDPH) Title 17, Section 350001



¹ Lead, 29 CFR 1926.62, <https://www.osha.gov/laws-regs/regulations/standardnumber/1926/1926.62>

**PROPOSAL FOR ON-CALL GEOTECHNICAL ENGINEERING
AND CONSTRUCTION TESTING SERVICES
CITY OF ALAMEDA, PUBLIC WORKS DEPARTMENT**

et seq., and 29 CFR 1926.62. The property owner(s) should ensure that the public does not have access to the Site during demolition activities.

The following summarizes our typical LBP survey methods:

- Depending on the complexity of the project, either XRF readings are collected with validation paint chip samples, or paint chip samples are solely collected. Paint chip samples are collected using a clean paint scraper or razor blade and are placed in a sealed laboratory-provided bag. The samples are submitted to an accredited laboratory under standard chain-of-custody protocols for lead analysis using atomic absorption by EPA Method 7000B.
- The LBP survey(s) will be performed by properly licensed and experienced professionals, including accreditations as required by the State of Washington.
- When lead is present, bulk building materials require TCLP analysis for, and comparison of the results to the TCLP thresholds for hazardous waste, to characterize the material for appropriate disposal following building material removal. The TCLP threshold for lead is 5 milligrams per liter (mg/L).

Permitting

Terraphase can assist the City with demolition and permit applications related to HBMS abatement and air monitoring activities, including those required by regional air quality management agencies, built from our extensive experience with regulatory compliance support. Other permitting support provided by Terraphase staff includes:

- Clean Water Act/NPDES permitting services including municipal, construction, and industrial NPDES permit support; TMDL evaluations for discharges to 303(d)-listed water bodies; and 401 water quality certification permitting support.
- Comprehensive Environmental Response and Cleanup Liability Act (CERCLA) support.
- Hazardous and Non-Hazardous Waste disposal
- USACE Joint Permit Application support.
- Compliance support associated with local and state ordinances and regulations.
- Waste impoundment and landfill capping, closure, and post-closure monitoring.

Documentation and Reporting

PDA and POC asbestos survey reports, LBP survey reports and mold and bacteria survey reports will be prepared documenting the results of the surveys. Terraphase's template reports will be reviewed by our seasoned technical editors, and the final reports will contain a copy of the inspector's valid accreditation and/or certification. Each report will be technically reviewed and signed by an experienced consultant prior to distribution.

Prior to data collection we typically provide Work Plans, SAPs and QAPs to detail proposed activities for the client, regulatory parties, and/or field staff. The SAPs will describe the type of sample media, sampling locations, and types of analytical methods to be used for each sample collected. The health and safety plan (HASP) will describe all known hazards associated with a site, prescribe appropriate personal protective equipment (PPE) for site personnel, describe emergency procedures following any injury/exposure, and document that site personnel have read and understood the health and safety requirements for the project. A quality assurance project plan (QAPP) will describe the acceptable level of quality for data generated by the project.

Terraphase has conducted hundreds of Environmental Site Assessments (ESAs), HBMSs, and remediation projects that have required careful analysis and clear presentation of data in succinct, well-written reports that have included associated relevant documents in accordance with EPA and state agency requirements. We take pride in



PROPOSAL FOR ON-CALL GEOTECHNICAL ENGINEERING
AND CONSTRUCTION TESTING SERVICES
CITY OF ALAMEDA, PUBLIC WORKS DEPARTMENT

the quality of our written products, and have received praise from clients and regulators including EPA. One of our reports (a RCRA Corrective Measures Study) was recommended by the EPA as a template for other projects.

C References, Related Experience and Examples of Work

C.1. Relevant Project Experience

Alameda Point Environmental Consulting Services, Department of Public Works | City of Alameda, California

Project Description:

Terraphase conducts periodic field inspections of the department’s construction areas for compliance with the City’s SMP, and has led a subsurface investigation in support of the department’s backbone utility infrastructure project in accordance with the City’s Marsh Crust Ordinance. Associated tasks involved surveys for ACM in concrete and subsurface utility vaults.

Team Member Roles:

- Mr. Romolo is the Project Director.
- Ms. Mosen is the Project Manager and prepares work plans and reports for environmental investigations, oversees field sample collection events, manages periodic field inspections of construction areas for compliance with the City’s Site Management Plan, and led a subsurface investigation in support of the Department of Public Works’ backbone infrastructure project and in compliance with the City’s Marsh Crust Ordinance.
- Mr. Mendoza manages hazardous material surveys of suspect lead-containing paint and asbestos-containing materials associated with the project.



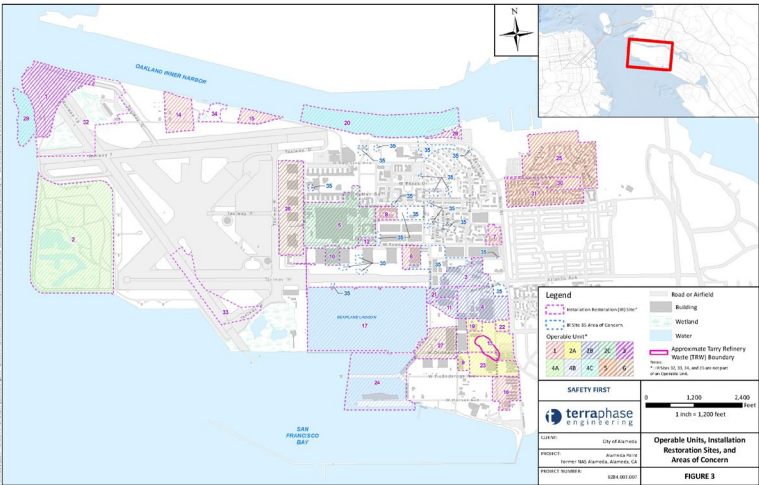
Start/End Dates:	2018 – Present
Contract Value:	\$750,000
Client Contact:	Erin Smith, Director, City of Alameda, Department of Public Works, (510) 747-7938, ESmith@alamedaca.gov

PROPOSAL FOR ON-CALL GEOTECHNICAL ENGINEERING
AND CONSTRUCTION TESTING SERVICES
CITY OF ALAMEDA, PUBLIC WORKS DEPARTMENT

Alameda Point Environmental Consulting Services, Base Reuse and Economic Development
Department | City of Alameda, California

Project Description:

Since 2018, Terraphase has provided strategic program environmental support consisting of the review of potential environmental liabilities associated with land to be transferred from the U.S. Navy to the City of Alameda, engaging with local community groups regarding the status of remedial activities at the former Naval Air Station Alameda, which is now known as Alameda Point; engaging with local, state and federal regulatory agencies to represent the interests of the City of Alameda; updating the Alameda Point Site Management Plan (SMP); verifying the implementation of regulator-required property restrictions; reviewing Navy remedial documents and activities; coordinating City of Alameda work taking place on Navy-owned land; implementing hazardous material surveys (i.e., asbestos and lead-based paint) for buildings to evaluate re-use options; monitoring of demolition activities; and performing indoor air assessments in areas with potential for vapor intrusion impacts from historical releases.



To implement the services described above, Terraphase coordinates with the U.S. Navy, the City of Alameda, and the state and federal regulatory agencies, including attending the Base Realignment and Closure (BRAC) Cleanup Team meetings and maintaining communication with stakeholders. Terraphase has worked with City of Alameda attorneys to review property restrictions and remedial obligations as they pertain to property transfers. Terraphase has also engaged local utility agencies and the City of Alameda Department of Public Works to update the Alameda Point Site Management Plan (SMP) in a way that takes into account not only development of parcels, but also installation and long-term management of utilities to be installed in support of the development parcels. Terraphase conducts periodic field inspections of the department’s construction areas for compliance with the City’s SMP, and led a subsurface investigation in support of the department’s backbone utility infrastructure project.

Team Member Roles:

- Mr. Romolo is the project director and interfaces with the local, state, and federal regulatory agencies, the U.S. Navy, and community groups on behalf of the City of Alameda; Mr. Romolo led an extensive update to the City’s Site Management Plan in response to the evolving needs of the City and requests from the regulatory agencies.
- Ms. Mosen is the Project Manager, prepares work plans and reports for environmental investigations, oversees field sample collection events, and interfaces with stakeholders.
- Mr. Mendoza manages hazardous material surveys of suspect lead-containing paint and asbestos-containing materials, coordinates oversight during associated abatement activities, and prepares closure reports.

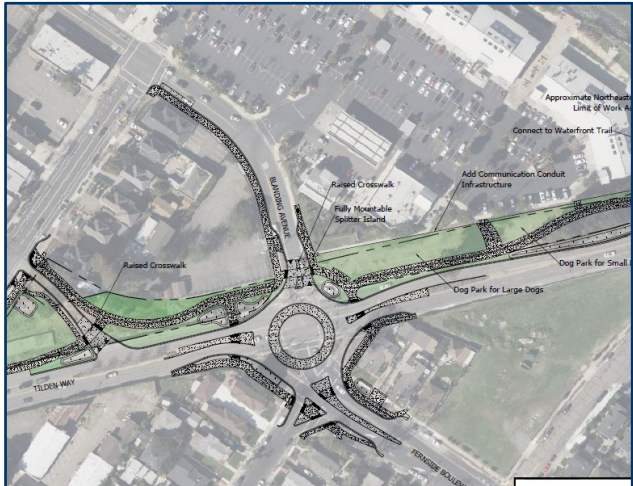
Start/End Dates:	2018 – Present
Contract Value:	\$2 million
Client Contact:	Abby Thorne-Lyman, Director, City of Alameda, Base Reuse and Economic Development Department, (510) 872-2686, athornelyman@alamedaca.gov

PROPOSAL FOR ON-CALL GEOTECHNICAL ENGINEERING
AND CONSTRUCTION TESTING SERVICES
CITY OF ALAMEDA, PUBLIC WORKS DEPARTMENT

Environmental Characterization and Remedial Planning, Tilden Way/Clement Avenue
Redevelopment Site | City of Alameda, California

Project Description:

The work at Alameda Point has introduced Terraphase to other departments within the City of Alameda for assistance with the environmental conditions at tangential projects. Terraphase is currently assisting with remedial planning for the Tilden Way/Clement Avenue redevelopment site which is managed by the Planning, Building, and Transportation Department. Terraphase has assisted the City in identifying the environmental liabilities associated with the site and defining the remedial actions required to accommodate the proposed end use for the site. The proposed remedial activities are scheduled to be implemented in 2025. Terraphase performed soil and groundwater investigations, a human health risk assessment, and developed site-specific cleanup goals for shallow surface soils to support redevelopment of the property into a public park. Terraphase continues to support the City with regulatory agency negotiation and coordination through the Removal Action Work Plan and associated activities.



Team Member Roles:

- Mr. Romolo is the Project Director.
- Ms. Mosen is the Project Manager, prepares work plans and reports for environmental investigations, and oversees field sample collection events.
- Mr. Mendoza manages hazardous material surveys of suspect lead-containing paint and asbestos-containing materials associated with the historical rail loading ramp on site.

Start/End Dates:	2018 – Present
Contract Value:	\$300,000
Client Contact:	Gail Payne, Project Manager, City of Alameda, Planning, Building, and Transportation Department, (510) 747-6892, GPayne@alamedaca.gov

On-Call Environmental Consulting Services | City of Oakland, California

Project Description:

Terraphase has provided diverse environmental consulting support for the City of Oakland since 2013. Ongoing for the duration of awarded contracts through the present, Terraphase manages the environmental case under the regulatory oversight of the Alameda County Environmental Health Department (ACEHD) for the City of Oakland’s Municipal Service Center (MSC). Efforts have centered on the development of a site conceptual model supporting low-threat closure for residual petroleum hydrocarbons in groundwater. Additional activities at the MSC have included the installation and sampling of multi-depth groundwater monitoring wells, 13 soil-gas wells to evaluate the soil gas to indoor air pathway, and 17 membrane interface probe and grab groundwater sample locations to assess the lateral and vertical extent of residual petroleum hydrocarbons in groundwater. The site has been documented by ACEHD as eligible for closure. As part of closure negotiations with ACEHD and the Port of Oakland

**PROPOSAL FOR ON-CALL GEOTECHNICAL ENGINEERING
AND CONSTRUCTION TESTING SERVICES
CITY OF ALAMEDA, PUBLIC WORKS DEPARTMENT**

(property owner), Terraphase has prepared a Sea Level Rise Vulnerability Assessment, and comprehensive Site Management Plan.

In addition to work on the MSC Site, Terraphase has supported the City of Oakland on multiple sites and various scopes of work in the past decade, including:

- Hazardous Waste Hauling Support for four City of Oakland facilities. Services included coordination and invoice processing from Brittell, the City's selected waste contractor, in 2022 and 2023.
- Multiple Hazardous Materials Building Surveys for City properties including Mosswood Recreation Center, Golden Gate Library, Temescal Library, and the City's electrical department building. Provided mold consultation, lead and asbestos sampling, and abatement services.
- Two Hazardous Material Assessments and a Phase II Investigation to support City-led sanitary sewer rehabilitations.
- Soil Investigation of the Vicinity of Latham Square to prepare for reconstruction of the plaza and intersection.
- Oversight of the implementation of the Risk Management Plan for redevelopment activities at Oakland Army Base (OAB; 2013 through 2016), a 469-acre redevelopment site jointly owned by the City of Oakland and the Port of Oakland. Terraphase was responsible for environmental monitoring on 228 acres of the redevelopment area which are owned by the City. Services included regular field inspections of the earthwork, inspections and sampling suspect soil, gaining regulatory approval for suspect soil removal activities, reporting, and responding to contractor spills to assess and sample contaminated materials.
- Implemented stormwater Best Management Practices (BMPs) on the former OAB. Developed the Stormwater Pollution Prevention Plan (SWPPP) and performed BMP inspections and compliance reporting (QSD and QSP services). Provided rapid deployment of BMPs such as drop inlet protection, straw wattle, plastic covers, and hydroseeding to protect stockpiles from erosion during rain events.



Team Member Roles:

- Mr. Romolo is the Program Manager and oversees all projects under the On-Call contract, and provides direct regulatory agency interface
- Ms. Behrens is the Project Manager for the MSC Site, and assists with resource allocation and general project management for On-Call projects
- Mr. Mendoza leads hazardous building material-related work including directing asbestos and mold remediation tasks
- Ms. Repa was a Project Manager for sewer rehabilitation projects, performed OAB field oversight, and has supported additional storm water-related work for the City

Start/End Dates:	Awarded 3-year contracts starting in 2013; current contract ends 2027
Contract Value:	\$2M
Client Contact:	Mark Arniola, Environmental Program Supervisor, City of Oakland Public Works Department, (510) 238-7371, MArniola@oaklandca.gov

**PROPOSAL FOR ON-CALL GEOTECHNICAL ENGINEERING
AND CONSTRUCTION TESTING SERVICES
CITY OF ALAMEDA, PUBLIC WORKS DEPARTMENT**

San Leandro Water Pollution Control Plant Polishing Pond Sediment Survey | City of San Leandro, California

Project Description:

This project includes technical studies, environmental planning, draft and final engineering design, regulatory permitting and construction management services to develop an innovative 4-acre treatment wetland system suitable for polishing ~1 million gallons of treated wastewater effluent per day to reduce loading of nutrients (nitrogen) and micro-organics to San Francisco Bay while generating significant habitat benefits, in addition to improved aesthetics and educational opportunities for a site adjacent to the Bay Trail.

As part of the pre-design phase of the project, **Terraphase** planned and implemented a sediment survey of the City's Water Pollution Control Plant's 4.3-acre former polishing pond, where the future treatment wetland will be sited. The objective of the sediment survey was to estimate the total volume and collect samples of the accumulated sludge within the pond to inform the design of engineering design of the pond area and assess potential environmental contamination of the accumulated sludge. Terraphase personnel measured total depth, depth to sediment, and sediment thickness at 50-foot intervals along three transects of the pond surface and collected sediment samples from locations equally distributed across the pond surface. Samples were analyzed for geotechnical parameters and for metal, petroleum hydrocarbons, PCBs, and pesticides.

The results of the survey led to the selection of sludge-soil-cement stabilization as the technology to prepare the dewatered pond surface for the future treatment wetland and supported regulatory approval for leaving the stabilized sludge in place under the future treatment wetland.

Team Member Roles:

- Mr. Jogia serves as a technical expert in site design, is the Engineer of Record for the stabilization design, and is leading planning and procurement for stabilization implementation.
- Mr. Raines serves as a technical expert in geotechnical engineering.
- Mr. Lucas Paz is the Project Director and provides expertise in hydrology.



Start/End Dates:	2018–present (project), 2023 (sediment survey)
Contract Value:	\$911,239 (total) \$56,000 (sediment survey)
Client Contact:	Hayes Morehouse, Plant Manager, City of San Leandro Water Pollution Control Facility, HMorehouse@sanleandro.org , (510) 577-3437

Chabot Community College Geotechnical Engineering | Hayward, California

Project Description:

Jeff Raines, Principal Geotechnical Engineer at Terraphase, has been the geotechnical engineer of record for the Chabot Community College Measure B Bond Fund since 2006 through three different companies – Terraphase signed a contract to support the college during its first week in business. Mr. Raines has provided geotechnical investigations and foundation designs for six buildings on the Chabot campus, including the Student and Community Access Center which is the centerpiece of the college's grand plan. Facilities Terraphase has worked on are

PROPOSAL FOR ON-CALL GEOTECHNICAL ENGINEERING
AND CONSTRUCTION TESTING SERVICES
CITY OF ALAMEDA, PUBLIC WORKS DEPARTMENT

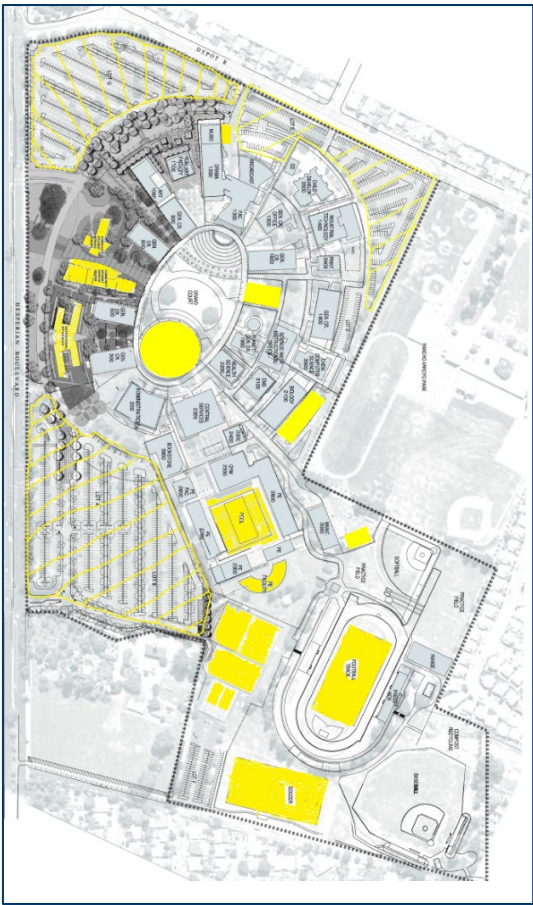
highlighted in yellow to the right. Mr. Raines has designed shallow and deep foundations – spread footings, tied spread footings, mats and cast-in-drilled-hole (CIDH) piles to support structures on campus.

As a public school, all of the geotechnical investigation and foundation design reports prepared for the college are reviewed by the California Geological Survey to assure that seismic design of the structure meets the California Building Code Requirements. Terraphase has provided California Building Code seismic ground motions for each of the structures listed above and assessed liquefaction settlements for each of the buildings.

Mr. Raines designed a pervious busway for the bus drop off at the main entrance to the campus (picture to the left). The geotechnical constraints were weak soils, heavy repetitive loadings, and the inability to connect the busway to the campus storm drains. Mr. Raines recommended that the busway be paved with pavers separated by gravel overlying 18 inches of Caltrans pervious cement-treated road base. The section is aesthetically pleasing and has performed superbly over the past seven years. To handle parking during the parking lot construction, Mr. Raines designed a temporary parking lot to be built over the campus soccer fields.

Team Member Roles:

- Mr. Raines served as the Project Director and geotechnical engineering expert.



Start/End Dates:	Total Project Cost: >\$120,000,000; Consultant's Total Fee: >\$300,000
Contract Value:	Project Start: 2006; Project End: Ongoing
Client Contact:	Eric Barger, Senior Construction Manager, Vanir Construction Management, 510-876-6029 Eric.barger@vanir.com

Mastlands Slope Repair | City of Oakland, California (City of Oakland On-Call Geotechnical Engineering)

Project Description:
Terraphase was retained by the City, under Terraphase's On-Call Geotechnical Engineering contract with the City of Oakland, to investigate a slope failure in the Montclair District of Oakland, determine the cause of the failure, design a repair, and oversee the construction of the repair.

The slope failure had damaged the storm drain diverting water from the uphill Castle Drive down to Mastlands. An economical soldier beam and lagging retaining wall – W8x10 soldier beams on 6-foot centers – was proposed for the repair. The soldier beams were embedded 5'-9" into residual soils below the slope. During installation of the wall, the soldier beams



**PROPOSAL FOR ON-CALL GEOTECHNICAL ENGINEERING
AND CONSTRUCTION TESTING SERVICES
CITY OF ALAMEDA, PUBLIC WORKS DEPARTMENT**

encountered naturally-occurring asbestos. Terraphase characterized the material and assured that it was properly disposed of.

The storm drain coming down from Castle Drive was terminated in a City of Oakland standard Energy Dissipater (photograph to the right).

Team Member Roles:

- Mr. Raines served as the Project Director and geotechnical engineering expert.

Start/End Dates:	Project Start: 2019; Project End: 2020
Contract Value:	Total Project Cost: ~\$120,000; Consultant's Total Fee: \$36,782
Client Contact:	Jeff Krohn, City of Oakland, Architect, 510.238.2253, jkrohn@oaklandca.gov

Chapel Drive Landslide | Lafayette, California

Project Description:

In March 2017, a landslide below 23 Chapel Drive in Lafayette, California moved 450 feet downhill (side scarp of slide shown to the right). The landslide occurred below the depth of a retaining wall that had been installed at the Site in the 1980s to repair a previous slide. The slide resulted in the red-tagging of one house, damage to a second house and the installation of a \$700,000 retaining wall to protect a third house.

Terraphase installed two inclinometers and two vibrating wire piezometers into the slide to assess the depth of the slide plane.

The slide moved over the winter of 2022-23 showing that the slide plane was approximately 41 feet below the ground surface.

Terraphase has participated in the design of a repair for the slide, but there are insufficient funds available to cover the cost of the repair.

Terraphase has supervised the winterization of the slope for the past five years.

Scope of Services: Forensic analysis, instrumentation, slope repair design, winterization

Team Member Roles:

- Mr. Raines served as the Project Director and geotechnical engineering expert.



Start/End Dates:	Project Start: 11/2017; Project End: Ongoing
Contract Value:	Total Combined Project Cost (future construction): >\$7,000,000 Consultant's Combined Total Fee: \$287,000
Client Contact:	Jon Kepko, Esq. Lewis Brisbois Bisgaard & Smith LLP, Partner, 813.739.1975, Jonathan.Kepko@lewisbrisbois.com

PROPOSAL FOR ON-CALL GEOTECHNICAL ENGINEERING
AND CONSTRUCTION TESTING SERVICES
CITY OF ALAMEDA, PUBLIC WORKS DEPARTMENT

4040 Civic Center Drive | San Rafael, California

Project Description:

Innovatus Capital Partners, LLC is redeveloping an existing office property in San Rafael for residential reuse. Terraphase is conducting the initial investigation of the Site to assess the feasibility of the project. As a first step, Terraphase contracted with a geophysical contractor to assess the rippability of a bedrock slope on the north side of the property (Figure 7). The results of the geophysical survey was that the rock is marginally-rippable.

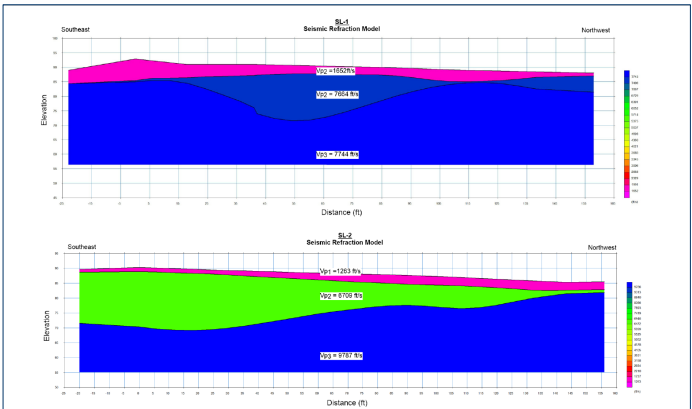
Based on a review of historical topographic maps, it appears that most of the proposed buildings will be constructed on bedrock. Terraphase will perform hand augering in the footprints of the proposed structure to assess if the existing buildings are on rock. If not, we will perform borings to assess material properties.

The final report for the project will include seismic risk assessments in accordance with ASCE 7 and ASCE 41 as one of the existing buildings will be repurposed for residential use.

Scope of Services: Geophysical investigation, geotechnical investigation, foundation design

Team Member Roles:

- Mr. Raines served as the Project Director and geotechnical engineering expert.



Start/End Dates:	Project Start: 2023; Project End: 2024
Contract Value:	Consultant’s Total Fee: \$27,000 to date
Client Contact:	David Persons, 561.574.2893, Buildingz Development, David@buildingz.io

Campus Bay – Site Investigation and Remediation | Zeneca Inc.

Description: The Site was first developed in the 1890’s when Stauffer Chemical Company constructed and operated a sulfuric acid manufacturing plant. The plant produced sulfuric acid by roasting pyrite ores. After roasting the ore, spent pyrite cinders were often used as fill to further develop the site. Beginning in the early 1900’s, operations were expanded to include the production an array of chemicals for agricultural and industrial applications. In 1997, the last production lines closed and Terraphase Principals began to design and implement environmental investigations and remedial activities. Remedial efforts for the property began under a Site Cleanup Order issued by the San Francisco Bay Regional Water Quality Control Board (RWQCB), and included numerous excavations to remove sources of VOCs, petroleum hydrocarbons, metals, and pesticides. Additionally, remedies for the protection of groundwater were implemented including the construction of a biologically active permeable barrier (BAPB) in 2002 and the onsite excavation, consolidation, and stabilization of pyrite cinders with dolomitic limestone in 2002-2003. In 2005 regulatory oversight for the cleanup and redevelopment of the property was transferred from the



**PROPOSAL FOR ON-CALL GEOTECHNICAL ENGINEERING
AND CONSTRUCTION TESTING SERVICES
CITY OF ALAMEDA, PUBLIC WORKS DEPARTMENT**

RWQCB to the Cal-EPA Department of Toxic Substances Control (DTSC) and in 2006 DTSC issued a Site Investigation and Remediation Order initiating the CERCLA process for Site cleanup.

Since 2010, Terraphase has conducted remedial investigations to complete characterization of the site under the DTSC Order. Activities included extensive soil, soil-gas, groundwater, and pore-water sampling primarily for VOCs, metals, and pesticides, but also included SVOCs, PAHs, PCBs, and radionuclides. The data collected was used to prepare the final characterization reports that were approved by the DTSC and to develop a Feasibility Study/Remedial Action Plan (FS/RAP) that described the evaluation process that resulted in the recommended environmental remedial plan for the Site. Through extensive engagement with the DTSC and the local community, the FS/RAP identifying the site remedy was approved in late 2019.

In accordance with the approved FS/RAP, a pre-design investigation was performed in 2020 to supplement historical data and update the conceptual site model prior to design of the remedy components. The pre-design investigation included collection of soil gas from 101 onsite soil gas wells, groundwater from 104 wells and 77 grab locations, and MIP/CPT data collected from 56 borings. The site remedy Implementation began in 2021 with focused excavations to remove approximately 4,000 BCY in total of soil containing arsenic, lead, and PAHs before backfilling the excavations with clean imported fill. In 2022, a soil vapor extraction system was installed consisting of 23 extraction wells, above ground conveyance piping, and treatment system to remove residual VOCs in soil with potential to contaminate groundwater. In 2023-2024 the in-situ remedy for VOCs in groundwater was implemented coupling abiotic chemical reduction with bioremediation by emplacing over 700 tons of zero valent iron using jet injection technology through 950 fractures and injection of over 250,000 gallons of electron donor and microbial cultures through 182 injection wells to promote enhanced reductive dichlorination.

Current operations include ongoing maintenance and performance monitoring of the SVE system for compliance with the BAAQMD permit and implementation of the groundwater monitoring program consisting of 130 monitoring wells which are sampled quarterly to evaluate performance of the in-situ remedy for VOCs and a subset of wells that are sampled semi-annually for continued monitoring of the remedies enacted for metals under RWQCB oversight (BAPB and treated cinder placement). Additionally, in-situ treatment for metals will be implemented in accordance with the FS/RAP pending approval of the preliminary design document currently under DTSC review.

Team Member Roles:

- Mr. Romolo is the project director and guides strategy development for the project, with a focus on regulatory agency interaction and public participation meetings.
- Ms. Mosen led soil and groundwater investigations, managed semi-annual groundwater monitoring events and report preparation, oversaw data validation activities, and prepared GIS drawings; Ms. Mosen interfaced with licensed drilling contractors, private utility locators, neighboring property representatives, waste haulers, analytical laboratories, and a treatability laboratory.

Start/End Dates:	2011 – Present (Terraphase staff involvement since 2002 and Terraphase involvement since 2010)
Contract Value:	> \$20 Million
Client Contact:	John-Paul Rossi, Zeneca Inc., (302) 593-9920, johnpaul.rossi@astrazeneca.com

PROPOSAL FOR ON-CALL GEOTECHNICAL ENGINEERING
AND CONSTRUCTION TESTING SERVICES
CITY OF ALAMEDA, PUBLIC WORKS DEPARTMENT

Comprehensive Environmental and Compliance Services | East Bay Municipal Utility District

Project Description:

Since 2018, Terraphase Engineering Inc. (Terraphase) has held multiple contracts with East Bay Municipal District (EBMUD) to perform a wide variety of environmental and compliance services, including:

- Phase I/II Environmental Site Assessments (ESAs),
- consultant for General Environmental Services (GES) on-call contract,
- consultant for Industrial Hygiene and Environmental Sampling Services (IHES) engineering feasibility analyses for District-wide management of trench spoils and updating their Trench Soils Master Plan,
- environmental characterization of large trench spoil stockpiles (>550,000 cubic yards) for off-site disposal and reuse,
- feasibility analysis and California Environmental Quality Act (CEQA) evaluation for potential re-use of abandoned quarry site for disposal of trench spoils,
- comprehensive evaluation of lead concentrations in drinking water at all schools within their service area, including water sampling and reporting result to the State of California (7,500+ samples and 500+ schools),
- National Pollutant Discharge Elimination System (NPDES) stormwater compliance inspection, reporting, and staff training, and emergency response support.



Terraphase provides comprehensive civil and environmental engineering services in support of the above activities including Civil 3D to develop site improvement and grading plans, geographic information system (GIS), and ES-DAT database software to streamline the management of environmental characterization data.

Team Member Roles:

- Mr. Arnab Chakrabarti, PE, is the Project Director and leads all facets of the project including environmental compliance and biological resource monitoring.
- Ms. Behrens was a key contributor to the EBMUD Trench Soils Master Plan.
- Mr. Luchette leads GIS data visualization and database management efforts for the project.

Start/End Dates:	2018 – Present
Contract Value:	\$3.7M
Client Contact:	Chandra Johannesson, EBMUD, (510) 287-0412, chandra.johannesson@ebmud.com

Oakland Unified School District Geotechnical Engineering

Project Description:

Terraphase was selected to provide geotechnical engineering consulting for the reuse of an existing school building as a Central Kitchen for the school district. Terraphase provided a geological hazards report and an updated seismic hazard assessment for the project. Eventually it was determined that the existing facility could not be economically converted and it was decided to tear the



**PROPOSAL FOR ON-CALL GEOTECHNICAL ENGINEERING
AND CONSTRUCTION TESTING SERVICES
CITY OF ALAMEDA, PUBLIC WORKS DEPARTMENT**

building down and construct a new building on the site designed specifically as a central kitchen.

Terraphase provided the geotechnical investigation and foundation design for the new building. The work was complicated as the Site included two different parcels and a former city street that had been deeded over to the school district.

Terraphase geotechnical engineers worked with Terraphase's environmental engineers to characterize the site soils which had been impacted by lead-based paint in the houses that had lined the former city street. Terraphase geotechnical engineers also located the former privy and foundation plans for two school facilities formerly located on the site that predated (going back to the 19th Century) the existing school and provided recommendations to the project contractor for dealing with the former school's foundation and privy. Terraphase provided geotechnical engineering services for a 50- by 50-foot shade structure constructed at the Brookfield Elementary School. Terraphase provided foundation recommendations for a new artificial turf football field to be constructed at Oakland Technical High School. Terraphase provided recommendations for stabilizing a failing slope and reconstructing a fire lane above the slope at Skyline High School. Terraphase provided recommendations for installing an artificial turf field at Edna Brewer Middle School.

Start/End Dates:	2015 – Present
Contract Value:	\$300,000
Client Contact:	John Esposito, Oakland Unified School District, (510) 277-6530, john.esposito@ousd.org

City of Bremerton (Consor Engineering), Well 9 Site Redevelopment

Project Description:

The City of Bremerton is evaluating options for the replacement of Well 9, which has been shut down due to the production of sand from the well. The City is therefore considering re-drilling Well 9 within the property, which contains moderately steep slopes. Significant grading is anticipated to provide site access and create a level pad for drilling and well equipment staging. Terraphase performed subsurface explorations and completed a geotechnical report, working with City personnel and equipment to complete the test pit excavations. As project plans progressed, we participated in team meetings and completed design for gravity and geosynthetic-reinforced block walls. We provided geotechnical consultation as the project moved into the construction phase.



Start/End Dates:	2021 - 2023
Contract Value:	\$17,950
Client Contact:	Peter Cunningham, Peter.cunningham@consoreng.com , (206) 462-7030

**PROPOSAL FOR ON-CALL GEOTECHNICAL ENGINEERING
AND CONSTRUCTION TESTING SERVICES
CITY OF ALAMEDA, PUBLIC WORKS DEPARTMENT**

**Treasure Island Redevelopment Project Environmental Due Diligence and Construction Compliance |
Treasure Island Development Group**

Project Description:

Treasure Island is one of the largest development sites in the San Francisco Bay Area, which will showcase 8,000 new residential homes, mixed-use space for retail and commercial ventures, and over 300 acres of public parks and open space. The residential plan includes a diversity of homes from townhomes to mid-rise and high-rise towers. The master developer, Treasure Island Development Group (TIDG), is currently redeveloping the former Naval Station Treasure Island, which includes Treasure Island and Yerba Buena Island. During the entitlement process, Terraphase Engineering Inc. (Terraphase) provided environmental due diligence support of land parcels to be transferred from the Navy to the developer under a Feasibility to Transfer (FOT), implemented as part of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) process. To date, approximately 430 acres of land parcels have been transferred from the Navy and approximately 67 acres on Treasure Island are currently being investigated by the Navy for eventual transfer. Terraphase attends the Base Realignment and Closure (BRAC) Cleanup Team meetings, on behalf of TIDG, to assess and advise on outstanding environmental issues for the remaining land parcels. Following the initial land parcel transfer process and prior to the start of construction, Terraphase prepared a comprehensive Soil and Groundwater Management Plan (SGMP) (formally accepted by regulators) in 2016 to comply with the California Environmental Quality Act (CEQA) Final Environmental Impact Report (FEIR) Mitigation Measures, Regional Water Quality Control Board (RWQCB) and Department of Toxic Substances Control (DTSC) land-use restrictions, and San Francisco Department of Public Health (SFPDH) requirements. The SGMP, which was updated in 2023, addresses all aspects of construction including soil and groundwater management protocol for environmentally and non-environmentally restricted sites, soil import criteria (approximately 2.5-3 million cubic yards is required), contractor training, unknown conditions response, and dust and stormwater compliance practices. Terraphase provides the following services to TIDG during construction: Phase I Environmental Site Assessments (ESAs), import soil review, environmental planning, regulatory support, and on-site oversight, including soil excavation for lead-based paint within building dripline areas, excavation and grading activities within environmentally restricted areas, site-wide dust monitoring compliance, hazardous materials assessment, and construction dewatering. Terraphase also supports vertical lot developers with these same services on Treasure Island and Yerba Buena Island.



Team Member Roles:

- Mr. Chakrabarti is the program manager and led the development of the agency-accepted SGMP. He interfaces with stakeholders, including attendees of the BRAC Cleanup Team meetings.
- Ms. Repa managed the dust monitoring program and field and reporting activities associated with the facility's Construction General Permit for stormwater compliance.
- Mr. Luchette leads GIS data visualization and database management efforts for the project.
- Mr. Mendoza managed hazardous material surveys during construction activities related to asbestos-containing materials.

Start/End Dates:	2010 – Present
Contract Value:	\$8.3 million
Client Contact:	Charles Shin, TIDG, (415) 905-5365, Charles.Shin@tisf.com

**PROPOSAL FOR ON-CALL GEOTECHNICAL ENGINEERING
AND CONSTRUCTION TESTING SERVICES
CITY OF ALAMEDA, PUBLIC WORKS DEPARTMENT**

D Hourly Billing Rates

Terraphase 2025 Standard Schedule of Charges with 10% Discount/10% ODC

Labor Classification	Hourly Rate with 10% Discount
Senior Principal	\$288.00
Principal Engineer/Scientist	\$270.90
Senior Associate Engineer/Scientist	\$253.80
Associate Engineer/Scientist	\$237.60
Senior Project Engineer/Scientist	\$222.30
Project Engineer/Scientist	\$207.00
Senior Staff 2 Engineer/Scientist	\$191.70
Senior Staff 1 Engineer/Scientist	\$173.70
Staff 2 Engineer/Scientist	\$153.90
Staff 1 Engineer/Scientist	\$134.10
Senior Technician	\$140.40
Technician 3	\$122.40
Technician 2	\$102.60
Technician 1	\$86.40
Senior Editor/Senior Project Coordinator	\$149.40
Editor 2/Project Coordinator 2/Accountant 2	\$132.30
Editor 1/Project Coordinator 1/Accountant 1	\$109.80
Administrator/Project Assistant/Billing Specialist	\$92.70

Labor Charges: All time will be recorded and charged to nearest 0.1 hour.

Expenses: Subcontractor fees and other direct costs, such as air travel, project supplies and rental equipment, etc. will be itemized and billed at our cost plus a 10 percent handling charge (or a rate as individually negotiated). Vehicle mileage when itemized is billed at the standard government rate in effect at the time of travel (www.gsa.gov/mileage).

Payment: Payment is to be mailed to Terraphase Engineering Inc., P.O. Box 102399 Pasadena, CA 91189-2399, and is due within 30 days of receipt of invoice. A service charge of 1.5% per month or the allowable legal rate may be charged on amounts that are past due for more than 30 days.

Rate Escalation: Rates are subject to revision after the first fiscal year of the contract, i.e., from July 1, 2025 through June 30, 2026. For Fiscal Years 2026 to 2030, it is anticipated that the City will consider renegotiation of the billing rates prior to the start of each fiscal year in accordance with the RFP. Rates on invoices will reflect rates in effect at time of invoicing.

PROPOSAL FOR ON-CALL GEOTECHNICAL ENGINEERING
AND CONSTRUCTION TESTING SERVICES
CITY OF ALAMEDA, PUBLIC WORKS DEPARTMENT

Appendix A

Key Personnel Resumes

Andrew Romolo, PG

Senior Principal Geologist, Vice President

Andrew Romolo is one of the founding partners of Terraphase and has more than 25 years of experience working as a geologist in the engineering and environmental consulting industry. He is a registered professional geologist in the State of California and has worked on projects throughout California, New York, and New Jersey, including various brownfield redevelopment projects. He has extensive experience in the characterization and remediation of a wide range of contaminants, including chlorinated solvents, metals, and technologically enhanced naturally occurring radioactive materials (TENORM).

He has implemented investigation activities in various settings, including aquatic environments along the California coast, and has designed work plans that investigate a wide range of contaminants, including volatile organic compounds (VOCs), metals, pesticides, herbicides, polychlorinated biphenyls (PCBs), dioxins, and radiological materials. In addition, Andrew has prepared remedial design documents and implemented remediation projects that have included injection of oxidants or organic substrates for the degradation of organic contaminants; injection of reagents for the reduction and immobilization of metals; and soil stabilization and solidification technologies for arsenic, chromium, and other metals.

Andrew also has extensive experience managing California Code of Regulations Title 27 (CCR Title 27) surface impoundments. He has managed the construction of double-lined impoundments, developed and implemented closure plans for decommissioning surface impoundments, and assisted in the development of cost estimates for financial assurance purposes.

Project Experience

Alameda Point, City of Alameda, California, City of Alameda (2018 – present)

Client Manager. Terraphase serves as strategic advisor to the City of Alameda regarding base transfer activities at Alameda Point, once one of the largest and most complete naval air stations in the world. Andrew's site reuse experience and expertise in the characterization and remediation of complex contaminants (i.e., chlorinated solvents, fuels, metals, and TENORM) are critical to understanding liabilities and risk tolerances as they relate to the proposed end-use options for sites to be transferred. He collaborates closely with the City, Navy, stakeholders, and regulatory agencies with regard to development alternatives, site management procedures, institutional controls, and regulatory correspondence. His responsibilities also include assessing indoor air quality as well as hazardous material surveys of buildings slated for demolition or revitalization. Most recently, Mr. Romolo assisted the City in preparation of their City-Wide Sea Level Rise evaluation report by providing a description on how the environmental remedies at Alameda Point can be adapted to account for potential effects from sea-level rise. He also worked with the regulatory agencies to develop a Site Management Plan (SMP) for development activities at the Base. He assists the City of Alameda Department of Public Works in adhering to the procedures described in the SMP during the construction for infrastructure upgrades at the Site.

Campus Bay (former Zeneca, Inc. Richmond Facility), Richmond, California, Zeneca (2005 – present)

Client Manager. Terraphase worked with the developer and previous site owner to design and implement a comprehensive environmental site investigation that included the collection of over 200 groundwater samples, over 450 soil and sediment samples, and over 100 soil-gas samples. The project also included the design, implementation, and performance monitoring of various pilot studies to assess the effectiveness of in-situ remedial technologies. Responsibilities also include engaging the surrounding community by attending community group meetings to discuss project schedule, status, and planned

Education

*BS in Geology, S.U.N.Y. Albany,
1996 Degree, School, Date
Earned*

Years of Experience

25+

Joined Terraphase

2010

Professional History

*Terraphase Engineering Inc.
Senior Principal Geologist,
2010 – present*

*LFR/Arcadis, Principal
Geologist, 2002 – 2010*

*Geologic Services Corporation,
(Now Kleinfelder),
2001 – 2002*

*EMCON/The Shaw Group,
1996 – 2001*

Licenses/Registrations

*Professional Geologist,
California #8110*

Certification/Training

40-Hour HAZWOPER

Andrew Romolo, PG

activities. Terraphase prepared and received regulatory approval for a Feasibility Study/Remedial Action Plan (FS/RAP). Currently, Terraphase is implementing the remedial activities described in the FS/RAP, including in-situ bioremediation for VOCs in groundwater, the operation of a soil-vapor extraction (SVE) system, in-situ treatment for metals dissolved in groundwater, and localized excavation. Terraphase is also implementing the site-wide groundwater/soil-vapor monitoring and reporting program. Mr. Romolo also provided support services to the client during property transfer. Terraphase assisted in negotiations regarding operation and maintenance (O&M) responsibilities in addition to the development of land use controls prescribed by the approved remedial alternative.

Blair Landfill, Richmond, California, Zeneca (2007 – present)

Client Manager. Terraphase is managing the environmental investigation of a former unlicensed construction debris landfill located in Richmond, California. Based on a review of the site history, Terraphase developed a site investigation work plan to evaluate the lateral and vertical extent of TENORM previously detected at the site. Currently, Terraphase is working with the regulatory agencies to establish a Background Threshold Value for the contaminant of concern and is preparing to develop a FS/RAP.

Musco Family Olive Company, Tracy, California, Musco (2011 – present)

Client Manager. Terraphase manages the Waste Discharge Requirement (WDR) Order for six Class II Title 27 surface impoundments. The surface impoundments serve as evaporation ponds for process wastewater. Terraphase was the Engineer of Record and construction manager for the construction of two new Class II Title 27 Surface Impoundments completed in 2014 and three additional surface impoundments completed in 2019. Terraphase assisted Musco with negotiating the terms of the WDR, developed the construction project's quality assurance/quality control (QA/QC) manual, and implemented the QA/QC program during construction. Terraphase continues to manage the WDR documentation and reporting activities for the surface impoundments. The client also retained Terraphase to develop a Clean Closure Plan for an existing Class II Title 27 Surface Impoundment. During decommissioning, Terraphase directed the contractor regarding excavation extent. After decommissioning activities were completed, Terraphase prepared a Clean Closure Report that was approved by the corresponding Regional Water Quality Control Board (RWQCB).

City of Oakland Municipal Service Center, Oakland, California, City of Oakland (2016 – present)

Project Manager. Project Manager for the characterization and assessment of groundwater and fill material at the approximately 17-acre property located in Oakland. Terraphase worked with the City to develop a site conceptual model that supports for regulatory closure under low-threat closure guidance for groundwater impacted by residual petroleum hydrocarbons. Activities have included regulatory negotiation to identify data gaps and the preparation of additional characterization work plans, installation and sampling of 13 soil-gas wells and five sub-slab vapor sampling points to evaluate the soil gas to indoor air pathway, and advancement of 17 membrane interface probes (MIPs) to assess the lateral and vertical extent of residual petroleum hydrocarbons in groundwater. An underground utility survey was completed to evaluate preferential pathways across the site and implementation of a site-wide groundwater monitoring program. Currently, the regulatory agency has acknowledged that the site qualifies for closure under low-threat guidance.

Wadham Energy Biomass to Energy Plant, Williams, California, Wadham (2005 – present)

Client Manager. Terraphase manages the WDR for two evaporation ponds. Activities include the installation of groundwater monitoring wells, groundwater monitoring and sampling activities, leachate collection and recovery system testing, and the semi-annual reporting required by the WDR. Terraphase also manages the sampling, inspection, and reporting requirements stipulated by the California Industrial Storm Water General Permit.

Litigation Support, Lodi, California, Guild Cleaners (2002 – 2005)

Project Manager. Managed the implementation of a field investigation that was designed to address a litigation claim placed on a local dry-cleaner operation. Worked with city officials to obtain the appropriate permits to complete the work in public rights-of-way. Assessed the data collected from the field investigation to prepare a remedial investigation report in accordance with the local RWQCB requirements.

Emily Mosen, PG

Senior Associate Geologist

Emily Mosen has led environmental investigation and monitoring activities involving groundwater, soil, soil gas, indoor and outdoor air, and process wastes. She manages field activities, obtains permits, prepares work plans and technical reports, and communicates with representatives of regional, state, and federal regulatory agencies. She has served clients in the government, energy, industrial, transportation, school, and real estate development sectors.

She has prepared Quality Assurance Project Plans (QAPPs) that establish Data Quality Objectives (DQOs) and associated procedures for achieving technical accuracy, precision, and validity of environmental data generated during projects such as soil and groundwater investigations, treatability studies, and comprehensive characterization of buildings and underlying soil and soil gas. Ms. Mosen is familiar with the requirements set forth in QAPP guidance documents issued by the Environmental Protection Agency (EPA).

Ms. Mosen interfaces with analytical laboratories and oversees the preparation of data validation reports in accordance with project-specific DQOs and requirements established in QAPPs and appropriate guidance provided by the EPA and Department of Defense (DOD). Ms. Mosen has performed data validation for sites affected by metals, volatile and semi-volatile organic compounds (VOCs and SVOCs), petroleum hydrocarbons, polychlorinated biphenyls (PCBs), organochlorine pesticides (OCPs), and asbestos.

Project Experience

Lawrence Berkeley National Laboratory (LBNL), Berkeley, California (2017 – present)

Task Manager and Quality Assurance Manager. Prepared QAPPs and supported work plan and report development for soil, concrete, sub-slab vapor, and building materials characterization activities to facilitate waste management and soil re-use decisions for future construction projects. Characterization projects included Buildings 4, 7, 14, 54, 56, 64, and 79. Directs a team of data validation specialists in the review of analytical data generated by field sampling events. Conducted Historical Site Assessments for Buildings 56 and 64. Supported development of a comprehensive Import Fill Plan for LBNL, which provides the requirements and specifies the processes for assessing the acceptability of imported soil from an off-site location to be used as fill material at LBNL. Provided peer review during the Terraphase evaluation of LBNL's Environmental Services Group's database procedures.

North Penn Area 5 Superfund Site, Colmar, Pennsylvania, Potentially Responsible Party (PRP) Group (2018 – present)

Quality Assurance (QA) Manager. QA Manager for a VOC release Superfund Site under USEPA Region 3. The project includes work under three Unilateral Administrative Orders: an interim remediation of the overburden groundwater aquifer, investigation of vapor intrusion for the facility above the groundwater contamination, and the first phase of the Remedial Investigation on the groundwater contamination in the bedrock aquifer beneath the site. Developed the QAPP in accordance with guidelines from the Uniform Federal Policy for Quality Assurance Project Plans. Oversees data validation activities.

Education

BS in Geological Science (with honors), University of Oregon, 2006

MA in Education, Loyola Marymount University, 2008

Years of Experience

14

Joined Terraphase

2011

Professional History

Terraphase Engineering Inc., Geologist, 2011 – present

Classroom Matters Tutoring and Advocacy, Math and Science Tutor, 2008 – 2010

Teach for America Corps Member, Chemistry Teacher, 2006 – 2008

Licenses/Registrations

California Professional Geologist #9318

Certification/Training

OSHA 40-hour HAZWOPER

Professional Certificate in Geographic Information Systems (GIS)

Professional Certificate in Sustainability and Energy

Emily Mosen, PG

Metal Shredder Residue Treatability Study, Multiple Sites, California, Institute of Scrap Recycling Industries (2014 – present)

Task Manager and Quality Assurance Manager. Prepared the Treatability Study Work Plan and associated QAPP. Assisted in the design and implementation of the field sampling activities, and bench-scale and pilot-scale treatability studies. Performs QA Manager responsibilities including data validation, data management, and reporting. Coordinates with multiple scrap recycling facilities and subcontractors including treatability laboratory, sample processing facility, and analytical laboratories.

General Environmental Compliance Support for a Pharmaceutical Manufacturing Facility, Vacaville, California, Confidential Client (2018 – 2022)

Geologist. Provided environmental compliance support during facility startup period. Areas of focus included permitting and management of stormwater and wastewater, Hazardous Materials Business Plan preparation, employee training, regulatory meetings and correspondence, and internal compliance goal tracking and reporting.

CUPA Support Program for Businesses, Solano County, California, Solano County Department of Resource Management (2018 – 2019)

Task Manager. Task manager for Solano County Certified Unified Program Agency (CUPA) Compliance Support Program for Businesses. Project included contacting approximately 175 businesses located in Solano County to offer participation in the Compliance Support Program. Terraphase assisted the regulated community with identifying applicable program requirements, providing education and guidance on reporting via the California Environmental Reporting System (CERS) website, and reviewing draft submittals for compliance with requirements.

Proposed School Site, Fremont, California, Fremont Unified School District (2017 – present)

Project Manager. Implemented Preliminary Environmental Assessment Work Plan, including composite and discrete soil samples collected from soil borings, and surface soil samples collected via Incremental Sampling Methodology. Reviewed analytical data and oversaw the preparation of data validation reports. Provided support in the preparation of Preliminary Environmental Assessment Report. Prepared draft Remedial Action Work Plan, Supplemental Site Investigation Work Plan, and Supplemental Site Investigation Report and supported regulatory negotiation. Coordinates inspections and documentation of site conditions.

Various Retail, Commercial, and Vacant Sites, Northern California, Private Developer (2013 – 2017)

Geologist. Implemented soil, groundwater, and soil gas investigation work plans, and prepared subsequent investigation reports. Characterization activities involved High Resolution Site Characterization (HRSC) methodologies, such as membrane interface probe (MIP) and cone penetrometer test (CPT). Conducted site reconnaissance activities and provided support in the preparation of multiple Phase I Environmental Site Assessments (ESAs) for retail, commercial, and vacant properties.

Campus Bay - Groundwater and Stormwater Sampling, Data Analysis, Report Preparation, Richmond, California, Zeneca (2011 – 2017)

Task Manager. Collected stormwater samples using automatic samplers installed on the site to monitor discharges. Responsible for the groundwater sampling and data validation for a biennial sampling project at a former sulfuric acid and pesticide manufacturing facility undergoing ongoing remediation. Ensured that project DQOs were met and that groundwater sampling was conducted in accordance with the site Sampling and Analysis Plan. Responsible for data management, quality control, data validation, geographic information system (GIS) presentation, and reporting. Implemented Verification Soil and Groundwater Sampling Work Plan, prepared multiple groundwater monitoring well installation work plans, and prepared subsequent reports for submittal to regulatory agency.

Jeff Raines, PE, GE

Senior Principal Geotechnical Engineer

Jeff Raines, a founding partner of Terraphase, has over 44 years of experience in civil, geotechnical, and environmental engineering. He is a registered geotechnical engineer in California and a registered civil engineer in California, Connecticut, Hawaii, Nevada, New York, Pennsylvania, and Washington. He has extensive experience in the design of shallow and deep building foundations, large excavations, excavations of environmentally-impacted soils, earth retaining structures, and slope repair. As an expert witness, he has testified three times in court and been deposed more than 12 times.

Project Experience

UPI Landfill Closure, UPI, (2023 – Ongoing)

Geotechnical Engineer. Geotechnical Engineer of Record for the closure of Waste Management Unit 2 at the UPI facility in Pittsburg, California. He specified the closure materials and supervised the analysis of the final slopes for the landfill and performed the settlement calculations.

Peralta Community College District, Alameda County, California (2006 – Ongoing)

Geotechnical Engineer. Performed the geotechnical investigation and designed foundations for seven buildings located at all four of the district's campuses – the Child Development Center and Agricultural Classrooms at Merritt College; the new class room building for Berkeley City College; the BEST building at Laney College and new entranceways for the Theater and Student Centers; and the new Aviation Building, Liberal Arts Building, and Transportation Technology Building at the College of Alameda. The new entranceways for the Theater and Student Center at Laney College will be constructed on a plaza that overlies the men's and women's locker rooms. The projects involve constructing micro piles through the showers of the locker rooms.

Chabot Community College Modernization Project, Chabot-Las Positas Community College District (2006 – Ongoing)

Geotechnical Engineer. Served as the Geotechnical Engineer of Record for the Chabot Community College Modernization project since 2006 (predating Terraphase by 4 years). Mr. Raines has provided geotechnical engineering services for the District for three different companies (LFR, ARCADIS, and Terraphase) over the past 18 years. His most recent design assignment, completed in January 2019, was the preparation of a geotechnical investigation and design report for the proposed baseball field improvements. He designed foundations for the Student and Community Access Center, which is the centerpiece of the Community College District's modernization project. He designed the foundations for the new Instructional Office Building, the new Biology Building and the new Physical Education Building. He provided foundation and drainage recommendations for the conversion of the football field to artificial turf and for the realignment of the campus Tennis Center. He provided pavement section recommendations for the repaving of the campus parking lots (1.5 inches thinner than the existing lots) and provided construction support to the District to mitigate an area of pumping foundation soils. He designed a temporary parking lot to handle parking during repaving of the parking lots and

Education

BS, University of Connecticut
Civil Engineering, 1980

MS, Northeastern University
Mechanical Engineering, 1983

MS, Stanford University
Geotechnical Engineering, 1985

Engineer, Stanford University
Civil Engineering, 1988

Years of Experience

44

Joined Terraphase

2010

Professional History

Terraphase Engineering Inc.,
Principal Geotechnical
Engineer, 2010 – present

LFR/ARCADIS,
Principal Geotechnical
Engineer 2005 – 2010

TechLaw, Inc.
Director of Engineering,
1998 – 2005

Geosyntec Consultants/MAA
Senior Project Engineer,
1992 – 1998

Amblin Entertainment,
Screenwriter
1991 – 1992

Stanford University, Graduate
Research Assistant,
1984 – 1991

Stone & Webster Engineering
Corporation, Engineer,
1980 – 1984

Licenses/Registrations

California Civil Engineer 51120

Civil Engineer: Hawaii, Oregon,
Washington, New York,
Pennsylvania, and
Connecticut

California Geotechnical
Engineer 2762

Jeff Raines, PE, GE

provided dust control recommendations that were successfully implemented. He designed a system to infiltrate stormwater through a heavily trafficked area on campus that could not be economically connected to the campus stormwater collection system. He provided litigation support services to the District for a construction claim against a contractor regarding the deck around the campus swimming pool.

Musco Family Olive Company Brine Pond Construction, Musco Olive Company (2013 – 2021)

Geotechnical Engineer. Engineer of Record for the design and construction of five brine evaporation ponds extending over 29 acres of surface area in Tracy, California. The ponds were constructed to Title 27 Class 2 standards. They consist of a bottom liner of scrim-reinforced polypropylene, a geosynthetic drainage media, and an upper liner of 80-mil high density polyethylene (HDPE). The ponds were constructed on time and on budget. Monitoring of the leak detection layer indicates that the primary liner has no defects.

Kinder Morgan Canada Terminals, Vancouver (2008 – 2010)

Geotechnical Engineer. Designed a containment system for on-site groundwater impacted by operations at one of the largest marine terminals in Canada. The containment system consisted of more than 1,000 meters of slurry wall installed using the vibrating beam method along with a groundwater extraction and treatment system consisting of 15 extraction wells and treatment for metals removal.

Sink Hole Claims, Confidential Client (2012)

Geotechnical Engineer. Mr. Raines was retained to review sinkhole claims in Florida. Under then Florida law, homeowners could claim sinkhole “activity” was affecting their home (a single crack in stucco was sufficient), leaving the insurance company to investigate the claim and prove the negative (that sinkhole “activity” was not occurring). Between 2006 and 2010, there were 24,671 open and closed sinkhole claims in Florida with \$1.4 billion in total sinkhole costs. Mr. Raines prepared a methodology to assess sinkhole “activity” claims that could be implemented cost-effectively and which shifted the burden of proof, in most cases, onto the insured property that hairline cracks in stucco surfaces were due to sinkholes rather than expected wear and tear.

Exit 174, Soda Springs, California, Santa Fe Pipeline Partners (2007 – 2008)

Geotechnical Engineer. SFPP operates a high-pressure petroleum products pipeline between Nevada and California running parallel to Highway 80 and the Santa Fe Railroad alignment through Donner Summit in the High Sierra. A slow leak from the pipeline resulted in impacts to soil above Highway 80, which threatened water quality in the wild and scenic Yuba River. Responding to the release, SFPP authorized the installation of a groundwater collection system at the toe of the slope in the Highway 80 median. After operating the system for 2 years, SFPP opted to excavate the petroleum-impacted soils to restore the site to its pre-release condition. Mr. Raines organized both a physical (boring) and geophysical exploration program for the site to assess the quantity of soils requiring excavation and the need for shoring below the active pipeline. Mr. Raines designed a shoring system for the top of the excavation consisting of soldier piles and lagging with optional tie-backs, which would be installed if the excavation exceeded a critical depth. The petroleum-impacted soils were successfully excavated during the summer of 2009. The groundwater extraction system and treatment system were decommissioned in 2010 with the assent of the Nevada County Department of Environmental Health.

Rumpke Landfill, Cincinnati, Ohio, Rumpke (1996 – 1998)

Geotechnical Engineer. On March 9, 1996, the north slope of the Rumpke Landfill, located near Cincinnati, Ohio, failed. Approximately 1.4 million cubic yards of municipal solid waste (MSW) moved 1,000 feet in about two minutes, completely filling a new landfill cell, which had just been constructed below the existing slope. The landslide left a vertical scarp in waste more than 100 feet high. A few days later, the landfill caught on fire. Mr. Raines designed and supervised the installation of the slope monitoring system for the failed slope to verify that additional slope movement was unlikely. The monitoring system consisted of vibrating wire piezometers and inclinometers. Mr. Raines performed the slope stability analyses for the forensic analysis to assess the causes of the slide and also performed the stability analyses for the redesign of the landfill.

Rick Powell, PE

Principal Geotechnical Engineer

Rick Powell is a Principal Engineer with over 34 years of professional geotechnical experience, nearly all of it while residing in the Puget Sound area, and he is the lead of the Terraphase Geotechnical Division in the Pacific Northwest. Rick is a Professional Engineer in Washington, Idaho, and California and has had the opportunity to work on geotechnical engineering projects in all these states. Prior to becoming an engineer, Rick worked for several years in the construction field on governmental, commercial, and residential projects. His familiarity with the construction industry has given him the uncommon ability to recognize and implement economical solutions to complex problems.

His technical responsibilities include principal-level management and review for geotechnical services. These services consist of many aspects of geotechnical study and design, including foundation building design, landslide evaluations and repair, seismic evaluations, peer reviews, review of construction specifications and bid reviews, emergency evaluations, and other forms of consultation as requested by his clients. The most important aspect of Rick's responsibilities is to help maintain, mentor, and improve technical staff to understand current codes and new geotechnical methodologies.

Project Experience

248th Avenue Lift Station, City of Enumclaw, Washington

City of Enumclaw is planning a new lift station with appropriate force and sewer mains. Due to backwater/surcharging impacts in the existing system, the city is also considering upgrading existing gravity sewer main. As part of the project, Rick supervised the geotechnical investigation and the resulting geotechnical report. Project challenges included traffic control, and multiple underground utilities throughout the subsurface exploration areas. The surficial soils in the City of Enumclaw predominately consist of the Electron Mudflow deposit from flow type failures from Mount Rainer. These soil deposits are generally very loose with a full range of soil conditions even up to large sized boulders. These boulders could get in the way of the directional drilling techniques that were anticipated under the archaeological sites in which surface excavation was not a timely viable option. Our exploration encountered some large boulders during our drilling. Our exploration documentation was augmented with research from neighboring sites where excavation was allowed. Our information resulted into verifying that boulders could be present in the direction drilling alignments. Rick suggested other non-invasive techniques that could be utilized to identify large boulders. At this phase of the design, these non-invasive tests have not been scoped or authorized.

Pump Station 33B, Lakehaven Water and Sewer District, Federal Way, Washington

Principal Engineer. Rick served as Lead Geotechnical Engineer for the Lakehaven Water and Sewer District (District) new pump station in the Federal Way area. The exploration program encountered the Redondo Milton Channel (RMC) aquifer, an artesian system with a piezometric head of 19 feet above ground surface at this location. Given this hydraulic head and the extremely high storage capacity and permeability of the system, typical dewatering methods would be futile. Rick's services included submittal review and addressing requests for information through the construction phase. Some environmentally contaminated material was observed by the contractor and Rick quickly mobilized our environmental

Education

*MS in Civil Engineering,
Brigham Young University,
1990*

*BS in Civil Engineering,
Brigham Young University,
1989*

Years of Experience

34

Joined Terraphase

2023

Professional History

*Terraphase Engineering Inc.,
Principal Geotechnical
Engineer, 2023 – present*

*Robinson Noble,
Principal Engineer,
2009 – 2023*

*Cornerstone Geotechnical,
Principal Engineer,
2000 – 2009*

Licenses/Registrations

*Professional Engineer,
State of WA, No. 30530*

*Professional Engineer,
State of ID, No. 15315*

*Professional Engineer,
State of CA, No. C49589*

Certification/Training

*Washington State DOT Fish
Passage and Stream
Restoration Design Training
FPT22-02846*

Memberships

*American Society of Civil
Engineers ASCE*

Rick Powell, PE

division to address the extent of the contamination and provide very timely answers to allow the project to move forward without costly delays. He also provided consultation for a modular block wall to raise the site to the planned grade. The most sensitive portion of the project required installation of an underground concrete vault while resisting the hydrostatic water uplift pressure. Underwater divers were used to construct the bottom of the concrete vault.

Puyallup River Bridge, Washington State Department of Transportation, Puyallup, Washington

Principal Engineer. Washington State Department of Transportation (WSDOT) replaced the 1925 steel truss bridge crossing State Route 167. To minimize disturbance to traffic, the old bridge was moved about 60 feet to the east for continued use while the new bridge was constructed in its place. Rick provided design and consultation for the temporary mechanically stabilized earth (MSE) bridge abutment walls. The old bridge was moved onto the MSE walls and served as a temporary detour while the new bridge was constructed. Rick was on site prior to and during bridge placement, consulting on temporary jacking loads on the MSE wall and addressing settlement concerns. The bridge re-opened ahead of schedule and in time for the Monday morning commute.

Comprehensive and Capital Facilities Plan – Environmental Impact Statement, Pierce County, Washington

Principal Engineer. In support of Pierce County's Comprehensive Plan Periodic Review and Update, Terraphase is part of the team competitively selected to complete a Capital Facilities Plan and Environmental Impact Statement (EIS). Rick provided several technical geotechnical reviews and comments to assist in developing the plan for Pierce County. His focus was to provide information for the Earth Resources section of the EIS. He also helped to address all the public comments regarding the draft versions of the EIS.

Pedestrian Bridge Adjacent to State Route 2 (SR2) Across the Sultan River, City of Sultan, Washington

Principal Engineer. The City of Sultan received funding to construct a pedestrian bridge adjacent to SR2 over the Sultan River. The bridge was designed in accordance with WSDOT standards, using the Load And Resistance Factor Design (LRFD) approach. The approach spans and the bridge are supported on 6-foot-diameter shafts extending about 60 feet in depth. Rick provided design capacities for both end-bearing and lateral loads. His consulting services included liquefaction analyses that would have some effect on the shafts. Designs were completed for mechanically stabilized earth (MSE) walls to connect the bridge to the existing roadway embankments. The MSE walls had to be designed with the potential effects of the river scour. Rick also provided geotechnical consultation throughout the construction phase of the project.

Brightwater Treatment Plant Reclaimed Water Storage, King County Wastewater Treatment Division, Woodinville, Washington

Principal Engineer. Rick provided geotechnical consulting and technical review for the King County team to evaluate nine locations at the Brightwater treatment plant for construction of a new reclaimed water and disinfection facility. After the client selected the preferred site, a detailed subsurface investigation and geotechnical design was completed on the preferred location. Rick provided technical review for the project, which included his consultation about cost saving measures for the planned improvements. The challenges with the geotechnical design include a high groundwater table and improvements excavated into a sloping hillside.

Sekiu Emergency Water Main Repairs, Clallam County PUD, Sekiu, Washington

Principal Engineer. The Clallam Bay/Sekiu Water System was constructed in the early 1960's and is now beyond the life expectancy of the system. Some failures observed in the existing water main are associated with the age and deterioration of the pipes; portions of the pipe system also extend through areas of ongoing slope movement. The combination of the age of the system and ongoing slope movement has led to frequent repair efforts, including areas where repair efforts are difficult to perform. Rick provided geotechnical consultation for the project, consisting of reviewing existing geologic and topographic data within the project area to determine locations, subsurface investigation using test pits and drilled borings throughout the alignment; and preparation of a geotechnical report providing recommendations for geotechnical design elements of the project. Rick also responded within 24 hours to an emergency evaluation of a landslide that required the PUD to install a temporary bypass pipeline on State Route 112 to serve as a temporary water supply for Clallam Bay, conveying water from the Sekiu side of the water system.

Joseph Schmidt, PE

Associate Geotechnical Engineer

Joseph Schmidt, PE is an Associate Geotechnical Engineer with 11 years of professional experience. He has extensive experience throughout western Washington working on a variety of public works, industrial, commercial, municipal, and residential projects. Before becoming an engineer, Joe worked as a construction special inspector for a variety of commercial, industrial, municipal, and residential projects. His construction experience coupled with his design acumen enable Joe to provide efficient, cost-effective solutions to challenging site conditions.

Joe's design experience includes gravity and MSE retaining walls, deep and shallow foundations, pavement sections, and reinforced slopes. Joe has experience developing, conducting, and managing subsurface investigation and laboratory testing programs used to assess soil and groundwater conditions and produce engineering parameters. The results of these subsurface investigation laboratory testing programs are vital to the development of foundation design and stormwater management plans.

His technical responsibilities include developing and managing subsurface investigation and laboratory testing programs. He develops geotechnical engineering reports using the results of the investigation and testing programs and provides peer review on geotechnical reports. Joe is tasked with providing slope stability analysis, shallow and deep foundation design, evaluation of site stormwater infiltration capabilities, and design of retaining walls.

Project Experience

Elwood Edge Complex, Bellingham, WA, (2019 – 2024)

Project Geotechnical Engineer/Construction Phase Project Manager. Served as the geotechnical engineer for the construction of two multi-family residential buildings and a mixed-use building. Provided foundation design recommendations for drilled shafts and shallow conventional foundations for the buildings. Worked with the structural engineer to develop a suitable foundation system for a building underlain by bedrock and soft soil subgrades. Joe designed a modular block retaining wall to create a parking area and support adjacent grades. Prepared geotechnical design parameters used by the structural engineer to develop concrete retaining structures. Joe oversaw the construction of the retaining and installation of the drilled shafts. Provided a design for a temporary embankment to facilitate excavations of up to 30 feet needed to reach building foundation grades. Joe was onsite throughout construction to provide guidance and value engineering recommendations for a site with highly variable subsurface geologic conditions.

Sumas Elementary School, Sumas, WA, (2018 – 2022)

Project Geotechnical Engineer. The project consisted of the construction of a new elementary school on the existing school grounds located within the 100-year flood plain of the nearby Sumas River. The project site was considered to have a high susceptibility to liquefaction during a seismic event and underlain by soils prone to post-construction settlement. Joe worked with the project team to develop a ground improvement program consisting of rammed aggregate piers and a pre-load to densify the near-surface soils in order to mitigate the liquefaction and settlement risks and raise the new school facility above the 100-year flood plain. Joe worked with the contractor during construction to provide recommendations for

Education

*MS in Civil Engineering,
Mississippi State University,
In Progress*

*BS in Civil Engineering,
Washington State
University, 2007*

*Post Graduate Studies,
Washington State
University, 2010*

Years of Experience

11

Joined Terraphase

2024

Professional History

*Terraphase Engineering Inc.,
Associate Geotechnical
Engineer, 2024 – present*

*GeoTest Services, Inc.,
Geotechnical Department
Manager, 2022 – 2024;
Project Geotechnical
Engineer, 2018 – 2022;
Staff Geotechnical
Engineer/Special Inspector,
2013 – 2018*

Licenses/Registrations

*Washington State PE License
No. 55631*

*Oregon PE License No.
105885PE*

Wyoming PE License No. 20619

*Certified Erosion & Sediment
Control Lead (CESCL)*

Memberships

*American Society of Civil
Engineers (ASCE)*

Joseph Schmidt, PE

maintaining stable soil subgrades throughout the wet season to maintain project timelines. He provided a design for a temporary modular block retaining to facilitate site grading and providing support to existing structures.

Samish Commons, Bellingham, WA, Bellingham Housing Authority (2018 – 2023)

Project Geotechnical Engineer. The project consisted of the redevelopment of a condemned motel site into a mixed-use facility including 171 affordable apartments for seniors and families over 3 buildings, with 11,000 square feet of commercial space for the Housing Authority's new office and an early learning childcare center. As the lead geotechnical engineer, Joe developed and implemented a subsurface investigation to characterize the site and determine soil design parameters. He prepared a geotechnical engineering evaluation incorporating the results of the investigation. Joe worked with the design team to develop foundation support for the buildings consisting of rigid inclusions, pin piles, and shallow conventional foundations to mitigate the presence of soft compressible soils and near surface bedrock conditions at the site. Joe provided oversight to earthwork operations throughout construction including the installation of rigid inclusions, pin piles, and general site grading offering value engineering recommendations to assist with project timelines and budget.

BP Cherry Point Refinery MS3 – MS4 Substation, Blaine, WA (2020 – 2024)

Project Geotechnical Engineer. Joe served as the lead geotechnical engineer for a new substation located within the BP Cherry Point Refinery. He implemented and managed the subsurface investigation and laboratory testing programs and utilized the results to produce a geotechnical engineering report. During the investigation very soft compressible soils were encountered to depths of approximately 100 feet below ground level at the project site. To provide support for the planned substation, Joe produced an H-Pile design that extended through the soft soils to the deeper bearing soils. He provided recommendations to stabilize the soft soils to provide support for new pavement sections. Joe provided geotechnical oversight throughout the earthwork phase of construction.

Lot 72, Burlington, WA, Port of Skagit (2022 – 2023)

Project Geotechnical Engineer. Joe provided a modular block retaining wall design to enable further expansions at the Skagit County Regional Airport. He developed and implemented subsurface investigation and laboratory testing programs to support the new retaining structure. Joe worked in close collaboration with the design team to develop a wall design that accounted for the new utility corridor located near the planned wall alignment.

H Street Rehabilitation, Blaine, WA, Wilson Engineering/City of Blaine (2016 – 2020)

Project Geotechnical Engineer. The eastern approach of H Street to the Interstate 5 overpass in Blaine, Washington had experienced settlement since original construction and was impacting traffic flow. Joe provided a design consisting of excavation of existing site soils and utilizing gabion baskets and lightweight fill to provide enhanced roadway stability and a reduced section weight. The enhanced stability and reduced weight will provide a stable pavement section and mitigate future settlement of the roadway approach.

Sedro Woolley Library, Sedro-Woolley, WA, (2016 – 2019)

Staff Engineer. Joe participated in subsurface investigation and laboratory testing programs in support of a new library facility for the City of Sedro Woolley and surrounding areas of unincorporated Skagit County. He prepared a geotechnical engineering evaluation providing recommendations for foundation support, stormwater infiltration, and earthworks. The project area had historically experienced variable loading conditions across the site. As such, Joe developed a pre-load program to mitigate the potential differential settlement across the building footprint resulting from the variable historic loading conditions. He provided oversight of construction activities during the pre-load and earthwork phases to ensure that geotechnical recommendations were properly implemented.

Shakeel N. Jogia, PE, PMP, CCM, QSD

Principal Engineer

Mr. Jogia is a civil engineer and program manager with 25 years' experience in leading delivery of challenging civil infrastructure and environmental remediation engineering and construction programs with intensive stakeholder outreach, including: design of water conveyance and treatment facilities, sea level adaptation shoreline protection measures, green infrastructure/stormwater conveyance and treatment improvements, site planning and design, and construction program management and quality administration for complex civil engineering and construction programs.

At Terraphase, Mr. Jogia leads the company's Site Engineering Service Area, covering the company's site civil engineering, geotechnical engineering, stormwater infrastructure design, and construction project management services.

Project Experience

Drainage Improvements and Sedimentation Basin Design, Briones Reservoir, Orinda CA, East Bay Municipal Utility District

Design Manager and Lead Engineer. Task lead and design engineer for hydrological analyses and design of drainage improvements and stormwater sedimentation basins for the East Bay Municipal Utility District (EBMUD) 13-acre District-Owned Soil Stockpile (DOSS) at the EBMUD Briones Reservoir. The Briones DOSS complex serves as a receiving yard for soil generated during EBMUD construction and maintenance projects and as a source stockpile area for sand and aggregate base. The DOSS is permitted under the State Water Resources Control Board Construction General Permit. Mr. Jogia led the engineering design of drainage improvements across the entire DOSS to accommodate EBMUD's planned upgrades and long-term expansion of the DOSS. Mr. Jogia completed hydrological analyses of the DOSS to develop drainage areas and estimate run-off quantities and led the design of two new sedimentation basins to provide detention and sedimentation of all DOSS run-off prior to discharge into the Briones Reservoir and surrounding regional parkland. The design was delivered in a design-build approach working collaboratively with EBMUD and the earthwork contractor to design and construct the drainage improvements before the 2024-2025 rainy season, meet EBMUD's operational and compliance requirements, incorporate access improvements requested by construction stakeholders who will be using the DOSS, and incorporate access improvements requested by park rangers for improved access to nearby parkland.

Ground Enhancement Stabilization Pilot Test, San Leandro, CA, City of San Leandro

Project Manager and Engineer. Project manager and design engineer for the planning, design, and implementation of field pilot-scale testing of sludge-soil-cement stabilization of accumulated sludge stored within the former polishing pond at the City's wastewater treatment plant. The project objective is to stabilize the surface of the pond to achieve a long-term unconfined compressive strength to allow future construction of a treatment wetland atop the stabilized surface. Mr. Jogia reviewed the findings of earlier bench-scale testing of multiple sludge-soil-cement mixes, designed the pilot-scale test, including developing test mix designs and shallow soil mixing methodologies, developed a work plan to implement the test, identified and prequalified specialty contractors to

Education

B.Sc. in Environmental Engineering, University of California, Riverside

Years of Experience

25

Joined Terraphase

2023

Professional History

*Terraphase Engineering Inc.,
Principal Engineer, present*

*PIVOX Corporation,
Director, Program
Management, 2022 – 2023;
Principal, 2015 – 2022;
Senior PM, 2011 – 2015*

*CH2M Hill, Inc., Project
Engineer, 2006 – 2011*

*Geomatrix Consultants, Inc.,
Staff – Project Engineer,
2000 – 2006*

Licenses/Registrations

*Professional Civil Engineer,
CA: #69108, NV: #032257*

*Qualified SWPPP Developer,
California, No. 23296*

Certification/Training

*PMP (Project Management
Professional), PMI, No.
3271222*

*CCM (Certified Construction
Manager), CM Certification
Institute, No. 33995*

*Construction Quality
Management for
Contractors,
USACE/NAVFAC*

*40-Hour Hazardous Waste
Operations and Emergency
Response Training*

*8-Hour Supervisor's Health and
Safety Training*

*Respiratory Protection Training
& Fit Testing (CCR Title 8
Section 5144)*

Shakeel N. Jogia, PE, PMP, CCM, QSD

potentially implement the test, prepared bid documents to competitively procure pilot test implementation, and selected the implementation contractor in collaboration with the City. Mr. Jogia managed the implementation of the test, including leading the Terraphase QA effort, serving as the project Point-Of-Contact with the City, and managing the test contractor. The test provided valuable information on the optimal design mix, post-stabilization strength, and time required to meet the required strength. This information will be used to design the full-scale stabilization project to be implemented in 2025.

Sea-Level Rise Protection Levee and Stormwater Design, Suisun City, CA, Fairfield-Suisun Sewer District

Design Manager. Design manager for 30% design of an integrated sea level rise (SLR) protection levee, 1,000-foot, 12 cubic feet per second stormwater treatment bioswale, and street level green infrastructure improvements project.

Responsibilities include leading development of the basis of design, progressive elaboration and iteration of project goals, evaluating project design parameters against project goals, completion and review of hydrological analyses, management of the civil design team, development of engineering cost estimates and technical specifications, senior review of all design deliverables, and serving as primary point of contact for the project owner for resolution of design issues.

Municipal Water Distribution Design, Tahoe City Public Utilities District

Design Senior Review, Engineer's Estimate Lead. Senior design reviewer and cost estimate lead during the development of the 30% design and cost estimate for Tahoe Cedars Water Line Replacement program for the Tahoe City Public Utility District. Design scope included designing alignment and layout of the replacement of over 50,000 linear feet of water mains, replacement of over 100 service laterals, and replacement of over 50 fire hydrants in accordance to the District's Water Master Plan.

For the engineer's cost estimate for this program, Mr. Jogia led the project team to mine the District's and nearby agencies' historical project cost data to develop a database for the Cedars estimate. Each project was evaluated for scope match composite unit rates for each project component were developed using time-weighted averages of historical project unit rates.

In-Situ Environmental Remediation, Milpitas CA, Industrial Client

Program Management Subject Matter Expert (SME). Program management SME for a complex remediation project consisting of in-situ remediation of groundwater, soil, and soil gas at a former industrial site which has been redeveloped into high-density housing. Mr. Jogia provides program management expertise, including program schedule management, deliverables planning and status monitoring, scope management, and cost management for the entire program, including development and delivery of the site remediation Feasibility Study, water treatment engineering design, soil vapor treatment system testing, and vapor intrusion mitigation system operation.

Construction Program Management, Stakeholder Coordination, and Design-Build Engineering, San Bernardino County, CA, Major Utility

Multiple Project Management and Technical Roles. Mr. Jogia served many critical functions, including Principal Engineer for Construction Engineering and Construction Program Manager, during design and construction of an innovative in-situ groundwater remediation system designed to deliver organic carbon to the subsurface to promote reduction of hexavalent chromium in groundwater.

- **Final Groundwater Remedy Construction**

Construction Program Manager. Mr. Jogia managed a team of construction engineers and managers that programmatically developed and implemented the construction of groundwater injection and extraction wells, underground pipelines, water treatment process facilities, and electrical power systems – the largest such project in the western United States. Using muklConstruction Manager-At Risk, design-build, and design-bid-build deliveries, Mr. Jogia coordinated, and collaborated with contractors, engineers, and the owner for health and safety management, project engineering, project quality assurance/quality control (QA/QC), stakeholder management, and regulatory compliance throughout the construction of the project.

During implementation, Mr. Jogia oversaw a team of twelve construction engineers. The total contract value of this program exceeded \$150MM, included up to 100 personnel on site daily, over 700 personnel trained to work on site, and a minimum of 10 contractor firms on site simultaneously.

The project installed over 50,000 linear feet of single- and dual-contained fusion-welded high-density polyethylene (HDPE) pipeline, ranging in size from 2 to 12 inches, in a wide range of challenging physical settings in the lower Mojave Desert.

- ***Final Groundwater Remedy Design***

Principal Engineer for Construction Engineering. Mr. Jogia led the project's constructability design review, risk management, construction planning, and cost estimating during the 60, 90, and 100 percent design phases of a >\$150MM contract value multi-disciplinary in-situ groundwater remediation and water treatment system project.

Mr. Jogia led detailed cost, quality, schedule, compliance and safety risk assessments of over 700 design drawings and over 1,500 pages of technical specifications at each stage of design delivery. Mr. Jogia's risk evaluations led to revisions of design technical elements, phased execution of the construction project, and adopting various delivery methods for different components of the project based to best manage the program's technical scope and risks.

Mr. Jogia outreach during external stakeholder review of construction plans, including presenting at multiple public meetings where construction methods, environmental and cultural compliance measures, and efforts to build a respectful and compliance project culture were presented and discussed.

Former Power Plant Site Restoration Engineering, San Francisco, CA, Major Utility

Design Manager and Senior Reviewer. Design manager for grading, paving, and stormwater conveyance and treatment at a 9-acre former power plant site. Led project design team, with technical review, schedule, and budget responsibility. This project included hydrological modeling and storm flow analyses, development of grading and drainage plans and design of site stormwater conveyance, including catch-basins, trench drains, storm drain piping, and design of three large-capacity stormwater bioswales that treated and conveyed site storm water directly to the San Francisco Bay. During construction, served as Resident Engineer, leading implementation of the project construction quality assurance program, reviewing/approving contractor submittals, and responding to contractor requests for information/interpretation.

Salvador Mendoza, PG, CAC

Senior Associate Geologist

Salvador Mendoza has 25 years of environmental project management experience at numbers schools throughout California as well as commercial, industrial, and private residences. Mr. Mendoza has worked with local, state, and federal regulatory agencies and air quality management districts regarding hazardous building materials (i.e., asbestos-containing materials [ACMs], lead-based paints [LBPs], mold, radon, mercury flooring, etc.) as well as natural occurring asbestos (NOA) assessments.

As Cleint Director/Project Manager, his duties include responding to client requests for services, conducting pre-construction meetings, and preparing agendas and minutes of progress meetings. He reviews subcontractor submittals for conformance, responds to requests for information, issues daily field memoranda, reviews budgets, reviews change order requests, and provides recommendations to the client and their project team on how to address hazardous building materials for regulatory compliance. He also conducts asbestos/lead sampling, oversees abatement projects, supervises and mentors junior staff; directs due diligence Phase I Environmental Site Assessments, has conducted environmental drilling activities, and soil and groundwater sampling; and assesses excavations for the potential presence of NOA.

Mr. Mendoza regularly provides schedule reviews, monitors project progress, and maintaining document control on project during construction until project close-out. Mr. Mendoza has conducted assessments for the potential presence of ACMs and well as NOA under the jurisdiction of the Bay Area Air Quality Management District (BAAQMD) and currently manages and mentors asbestos- and lead-certified staff throughout California and adjacent states.

Representative Project Experience

Hazardous Building Material Surveys (HBMSs), Orinda Union School District (2020 – Present)

Client Director. Working with the Orinda Union School District at five of their active campuses and as part of district wide improvement projects. Conducted file reviews prior to conducting pre-renovation hazardous building material surveys to assess for the potential presence of ACMs, LBPs, polychlorinated biphenyls (PCBs), and visible mold. Utilized point counting techniques to further assess the asbestos content in several building materials to determine if the materials are regulated by the local air quality management district (AQMD). This technique allowed the district to save on AQMD notification costs as well as disposal costs. Project-specific abatement specifications related to asbestos abatement and lead stabilization were provided, as needed. Terraphase conducted abatement oversight, visual clearance inspections, perimeter and clearance air sampling, and closure reporting on the district's behalf. Terraphase remained focused on the District's schedule and completed the work under budget.

Education

BA in Geology, California State University Sacramento, 1999

AS in Geology, Sierra Community College, 1996

Years of Experience

25

Joined Terraphase

2020

Professional History

Terraphase Engineering Inc., Senior Associate Geologist, 2020 – present

Essel Environmental Engineering & Consulting, Senior Program Manager, 2019 – 2020

FACS, Senior Project Geologist, 2017 – 2019

Arcadis, Senior Project Geologist, 2005 – 2017

Kleinfelder, Inc., Staff Geologist, 1999 – 2005

Licenses/Registrations

California Professional Geologist (PG), No. 8399

Certified Asbestos Consultant (CAC), No. 03-3386

Lead-Related

Inspector/Assessor, No. LRC-00000496

Asbestos Consultant, CA, NV

Lead-Based Paint, CA, NV

Certification/Training

SCAQMD Rule 1403-Asbestos Emissions From Demolition/Renovation Activities Compliance Promotional Class

OSHA 40-hour HAZWOPER

OSHA 8-hour HAZWOPER Refresher

United States Navy, Honorably Discharged, 1999

Salvador Mendoza, PG, CAC

District-Wide Projects, Southern California Edison (2021 – present)

Program Manager. Responsible for responding to client needs regarding renovations or demolition activities associated with electrical towers, mechanical-electrical equipment rooms, and decommissioned equipment. Manages a high volume of projects related to ACM and LBP assessments for regulatory compliance, which often includes expedited surveys and report preparation while not exceeding the specific project budget.

Campus-Wide Projects, East Bay Municipal Utility District (EBMUD; 2024 – present)

Program Manager. Conducted comprehensive HBMSs (ACMs, Title 22 metals, and PCBs) assessment for several buildings as part of EBMUD's Grit Dewatering Equipment Replacement, Reactor Drain Improvement, and Seismic Retrofit Projects. Managed all aspects related to HBMSs, which were conducted in occupied and vacant buildings. Oversaw the collection of bulk samples and interpreted bulk sample results consistent the California Department of Industrial Relations and AQMD requirements for asbestos. Completed the HBMS reports on time and the work was completed under budget.

Campus-Wide Projects, Lawrence Berkeley National Laboratory (LBNL; 2020 – present)

Program Manager. Conducted comprehensive HBMSs (ACMs, LBPs, or lead-containing paints [LCPs], PCBs, mold, and universal waste [UW]) for several buildings (Building 33, former Cafeteria Building 54, former ATM Building 54A, Laboratory Building 56, Office/Laboratory Building 64, and Advanced Light Source [ALS] Storage Ring Tunnel and Pit areas) located at the Berkeley, California, campus. Managed all aspects related to HBMSs, which were conducted in occupied and vacant buildings for regulatory compliance while adhering to the project budget. Collected bulk samples from areas exhibiting preexisting damage or from discrete locations, patched sample locations using caulk or spackle to make the patches airtight, and promptly addressed any visible debris resulting from the sampling event in an effort to control perceptions. Interpreted bulk sample results consistent the California Department of Industrial Relations requirements for asbestos. Draft HBMS reports were submitted to LBNL for their review and comment. The final reports were reviewed and approved by Mr. Mendoza (a Certified Asbestos Consultant), as required by the California Occupational Safety and Health Administration for asbestos-related projects.

District-Wide Renovation Projects, Tahoe Truckee Unified School District (2018 – 2022)

Project Manager. The school district's environmental consultant during their district-wide renovation projects. Managed the district's Asbestos Hazard Emergency Response Act (AHERA) 3-year reinspection program at all of their 15 campuses; provided 2-hour asbestos awareness training; conducted bulk sampling for ACMs, LBPs, and mercury flooring; conducted lead occupational exposure assessments and asbestos negative exposure assessments, abatement/remediation oversight, validation clearance testing, and closure reporting. Worked with the regulatory agencies in addressing a lead-in-soil hazard at a campus, which resulted in the worker returning to the construction site to complete their work in a safe environment.

Visual Assessments and Validation Sampling University of California at Davis (2018 – 2019)

Project Manager/Geologist. Project manager/Professional Geologist responsible for conducting visual assessments and validation sampling to assess for the presence of NOA for the following projects: retention basin, dining commerce, library seismic retrofits, and bike parking improvements. Tasks included interaction with Design & Construction Management Project Managers to confirm the areas to be assessed, coordinating with Underground Service Alert (USA) for utility clearance, logging soils using the Unified Soil Classification System (USCS), and conducting the soil sampling activities. The soil samples were submitted to an accredited laboratory for polarized light microscopy (PLM) analysis with a California Air Resources Board (CARB) Method 435 preparation. Results were tabulated, assessed, and reported to the client with recommendations, as warranted.

Litigation Support – Confidential Client (2023 – present)

Consultation support pertaining to the abatement of friable asbestos from a public building. Responsible for conducting post-abatement visual inspection, ambient sampling for airborne fibers, collecting wipe samples for asbestos in dust analysis, and preparing a report with findings.

Anna W. Behrens

Associate Scientist

Anna Behrens has over 15 years of diverse environmental consulting experience. She has expertise particularly in site characterization, groundwater monitoring, in-situ remediation, industrial waste management, and vapor intrusion. In addition, she has conducted numerous Phase I Environmental Site Assessments, air emissions compliance evaluations, construction oversight tasks, and stormwater compliance. She has managed confidential/litigation projects and provided services for diverse clients, including heavy and light industrial, municipal, and real estate development entities.

In her current position, Ms. Behrens manages and oversees field activities related to numerous site investigation and remediation projects, and provides cost estimating, permitting and project planning services. She interfaces directly with clients, regulators, and various stakeholders on project progress and scope. She prepares and reviews technical documents such as remedial investigation and remedial action reports, work plans, site investigation reports, and closure requests.

Ms. Behrens has been involved with evaluations of the use of passive groundwater sampling to replace purge-and-sample monitoring methods. She has experience with work plan preparation, regulatory negotiations, and wellhead conversions for passive sampling methods.

Project Experience

Scotts Valley Dry Cleaners, Scotts Valley, California, Pratt Company (2018 – present)

Project/Task Manager. Manages semiannual groundwater monitoring and in-situ remediation at dry-cleaner site with tetrachloroethene (PCE) impacts to soil, soil gas, and groundwater, and complex regional geology. Design and implement program to transition sampling methods to passive collection methods (Snap sampler technology). Comparative data evaluation conducted to gain regulator acceptance of methods.

East Bay Municipal Utility District (EBMUD), Oakland, California (2019 – present)

Project/Task Manager. Developed the 2020 update to the District's Trench Soils Management Program (TSMP). Works directly with District personnel to develop alternatives and draft a comprehensive plan. Includes detailed costing for strategies including trench soils characterization, reuse, disposal, and direct haul options. Presented the TSMP to District Stakeholders in Spring 2020.

USS-Posco Industries, Pittsburg, California, UPI (2018 – present)

Project/Task Manager. Provides task and project management for a steel finishing facility to assist in characterization and cleanup for contaminated areas and buildings impacted by hazardous materials generated during previous operations. Interfaces with the Department of Toxic Substances Control (DTSC) to resolve violations related to hazardous waste storage and potential human exposure to elevated metals and polychlorinated biphenyls (PCBs).

City of Oakland, Municipal Services Center, Oakland, California, City of Oakland (2016 – present)

Task Manager. Provides task management for a City of Oakland facility and active underground storage tank (UST) case with residual light non-aqueous phase liquid (LNAPL). Prepares technical materials for proposed additional site investigations and LNAPL delineation utilizing in-situ sensing technologies (Membrane Interface Probe [MIP], Ultra-Violet Optical Screening Tool [UVOST®]), manages groundwater monitoring program, and participates in regulatory meetings with

Education

*BA in Environmental Studies,
Vassar College,
Poughkeepsie, New York
School, 2005*

Years of Experience

16

Joined Terraphase

2016

Professional History

*Terraphase Engineering Inc.,
Senior Staff/Associate
Scientist, 2016 – present*

*Iris Environmental, Staff
Scientist/Senior Scientist,
2007 – 2010; Summers
2011, 2014*

*Advanced GeoEnvironmental,
Staff Geologist, 2005 – 2006*

Certification/Training

*40-Hour OSHA HAZWOPER
with current 8-hour
refresher*

Anna W. Behrens

Alameda County Environmental Health Department. Reviewed almost 30 years of historical documents from previous site investigations conducted since leak discovery.

TRACON Facility, Oakland, California, Port of Oakland (2016)

Field Staff. Conducted cone penetration testing (CPT)/UVOST investigation at the active Terminal Radar Approach Control (TRACON) facility operated by the Federal Aviation Administration. The target of the investigation was delineation of LNAPL impacts resulting from former USTs installed at the site during operation by the U.S. Navy. Provided client and agency interface during field activities.

Point Molate Naval Fuel Depot, Richmond, California City of Richmond (2016 – present)

Field Staff. Field staff for various tasks at a 400+ acre former Naval Fuel Depot. Performs weekly Storm Water Pollution Prevention Plan (SWPPP) inspections, including at an engineered wetland area. Executes closed landfill inspections, shoreline and seep inspections on a monthly basis, and quarterly UST inspections. Samples influent and effluent from landfill water treatment system.

Schnitzer – Oakland, Schnitzer Steel Industries Inc. (2016 – present)

Manager. Provides oversight of field soil and groundwater investigations, periodic groundwater monitoring, waste characterization, stormwater management and inspections, and general environmental consulting.

Campus Bay, Richmond, California, Zeneca Inc. (2016 – present)

Field Staff. Conducts site-wide groundwater sampling of nearly 100 groundwater monitoring wells on a semi-annual basis at a former 86-acre sulfuric acid and pesticide manufacturing facility undergoing ongoing remediation. Utilizes low-flow technology with a peristaltic pump. Provides sample and data management.

Residential Redevelopment, Berkeley, California, READ Investments (2016)

Field Staff. Construction oversight for excavation soils management at a former UST site. Managed and profiled soils impacted with total petroleum hydrocarbons (TPHs) and metals, including confirmation sampling and stockpile management. Sampled sediment and groundwater from an agricultural well not known to be present at the site. Supported successful characterization of related impacts and decommissioned well during active site redevelopment.

Former chemical processing facility, RCRA, Confidential Client (2011)

Field Staff. Field manager for a site-wide shallow soil, groundwater, and soil-gas investigation at a highly contaminated former waste recycling facility. Executed field program including 300+ borings. Participated in agency interface with DTSC, Environmental Protection Agency (EPA), and Regional Water Quality Control Board (RWQCB) for the site. Aided in design of site-wide remedial program utilizing in-situ delivery of substrate for dechlorination of solvents in groundwater.

Maher Ordinance Compliance Support, Mission Bay, California (2007 – 2010)

Task Manager & Field Staff. Conducted numerous Phase II investigations at redevelopment sites (including leaking UST [LUST] sites) in the Mission Bay area of San Francisco in compliance with Maher Ordinance requirements. Prepared work plans, coordinated and executed field programs including soil, soil-gas, and groundwater sampling, and prepared soils analysis reports (SARs) presenting and evaluating resulting data.



TERRENG-02

MLACYMCCLINTOCK

CERTIFICATE OF LIABILITY INSURANCE

DATE (MM/DD/YYYY)

5/13/2025

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

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

PRODUCER License # 0C36861 Seattle-Alliant Insurance Services, Inc. 401 Union Street, 31st Floor Seattle, WA 98101	CONTACT NAME: Melanie Kelly PHONE (A/C, No, Ext): FAX (A/C, No):	
	E-MAIL ADDRESS: melanie.kelly@alliant.com	
INSURED Terraphase Engineering, Inc. 1300 Clay Street, Suite 1000 Oakland, CA 94612	INSURER(S) AFFORDING COVERAGE	
	INSURER A : Crum & Forster Specialty Insurance Company	
	INSURER B : Continental Insurance Company	
	INSURER C : Aspen Specialty Insurance Company	
	INSURER D : National Fire Insurance Company of Hartford	
	INSURER E :	
INSURER F :		

COVERAGES

CERTIFICATE NUMBER:

REVISION NUMBER:

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

INSR LTR	TYPE OF INSURANCE	ADDL INSD	SUBR WVD	POLICY NUMBER	POLICY EFF (MM/DD/YYYY)	POLICY EXP (MM/DD/YYYY)	LIMITS
A	☒ COMMERCIAL GENERAL LIABILITY ☐ CLAIMS-MADE ☒ OCCUR GEN'L AGGREGATE LIMIT APPLIES PER: ☐ POLICY ☒ PROJECT ☐ LOC OTHER:	X	X	EPK-149149	10/4/2024	10/4/2025	EACH OCCURRENCE \$ 10,000,000 DAMAGE TO RENTED PREMISES (Ea occurrence) \$ 50,000 MED EXP (Any one person) \$ 10,000 PERSONAL & ADV INJURY \$ 10,000,000 GENERAL AGGREGATE \$ 10,000,000 PRODUCTS - COMP/OP AGG \$ 10,000,000
B	AUTOMOBILE LIABILITY ☒ ANY AUTO OWNED AUTOS ONLY ☐ SCHEDULED AUTOS ☐ HIRED AUTOS ONLY ☐ NON-OWNED AUTOS ONLY	X	X	7063362068	10/4/2024	10/4/2025	COMBINED SINGLE LIMIT (Ea accident) \$ 1,000,000 BODILY INJURY (Per person) \$ BODILY INJURY (Per accident) \$ PROPERTY DAMAGE (Per accident) \$
C	☐ UMBRELLA LIAB ☒ OCCUR ☒ EXCESS LIAB ☐ CLAIMS-MADE DED ☒ RETENTION \$ 0	X	X	EX00UFY24	10/4/2024	10/4/2025	EACH OCCURRENCE \$ 6,000,000 AGGREGATE \$ 6,000,000
D	WORKERS COMPENSATION AND EMPLOYERS' LIABILITY ANY PROPRIETOR/PARTNER/EXECUTIVE OFFICER/MEMBER EXCLUDED? (Mandatory in NH) ☐ If yes, describe under DESCRIPTION OF OPERATIONS below	N/A	X	7040301196	10/4/2024	10/4/2025	☒ PER STATUTE ☐ OTH-ER E.L. EACH ACCIDENT \$ 1,000,000 E.L. DISEASE - EA EMPLOYEE \$ 1,000,000 E.L. DISEASE - POLICY LIMIT \$ 1,000,000
A	Prof Liab/Pollution			EPK-149149	10/4/2024	10/4/2025	Each Claim/Each Occ 5,000,000
A	Prof Liab/Pollution			EPK-149149	10/4/2024	10/4/2025	Prof Liab/Pollution 5,000,000

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

All Other States Workers Compensation Policy #7040301196 | 10.4.24 - 10.4.25 | National Fire Insurance of Hartford | Employers Liability Limits: \$1m/\$1m/\$1m | Statutory Coverage Applies

The City, its City Council, boards, commissions, officials, employees, agents, and volunteers are additional insured(s) under all insurance coverages, except workers' compensation and professional liability insurance.

Initial

Le

5/13/2025

CERTIFICATE HOLDER

CANCELLATION

City of Alameda
 2263 Santa Clara Ave
 Alameda, CA 94501

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

AUTHORIZED REPRESENTATIVE



Certificate Disclaimer

Alliant Insurance has recently updated their Certificate of Liability procedures to minimize unnecessary errors and to help clients and certificate holders understand the limitations and provisions outlined in their insurance policies. We will do so by adhering to the recommendations found in the recent Acord form manual and by staying compliant with state statute WAC 284-30-355 and (ORS)744.074(1)(e). Alliant aims to ensure clarity and accuracy in coverage interpretation while also protecting the interests of its clients and certificate holders.

While we can still add specific details such as job numbers, contract names, event dates, or specific locations on certificates, it's crucial to note that Alliant cannot bind our insurers to anything beyond what is specified in the endorsement. If the Additional Insured box is checked, individuals can refer to the Additional Insured endorsement attached to their certificate for detailed coverage information.

Ultimately, coverage is determined by the policy, its terms, and individual endorsements, and as established by the contract between the Named Insured and the Additional Insured. If there are any further inquiries or requests for clarification, please do not hesitate to reach out to us for further assistance.

Alliant Insurance Services, Inc.
818 W Riverside Ave Ste 800
Spokane, WA 99201

THIS ENDORSEMENT CHANGES THE POLICY. PLEASE READ IT CAREFULLY.

AMENDED WAIVER OF TRANSFER OF RIGHTS
OF RECOVERY AGAINST OTHERS TO US

This endorsement modifies insurance provided under the following:

COMMERCIAL GENERAL LIABILITY COVERAGE PART
CONTRACTORS POLLUTION LIABILITY COVERAGE PART
ERRORS AND OMISSIONS LIABILITY COVERAGE PART
THIRD PARTY POLLUTION LIABILITY COVERAGE PART
ONSITE CLEANUP COVERAGE PART

SCHEDULE

Name of Person(s) or Organization(s)
Blanket when specifically required in a written contract with the named insured.

SECTION VI – COMMON CONDITIONS, item 17. Transfer Of Rights of Recovery Against Others To Us
within the Common Provisions is amended by the addition of the following:

Solely as respects the person(s) or organization(s) indicated in the Schedule shown above, we waive any right of recovery we may have against the person(s) or organization(s) indicated in the Schedule shown above because of payments we make for “damages” arising out of your ongoing operations or “your work” performed under a written contract with that person(s) or organization(s) and included in the “products-completed operations hazard”.

However, this waiver shall not apply to “damages” resulting from the sole negligence of the person(s) or organization(s) indicated in the Schedule shown above.

ALL OTHER TERMS AND CONDITIONS OF THE POLICY REMAIN UNCHANGED.



THIS ENDORSEMENT CHANGES THE POLICY. PLEASE READ IT CAREFULLY.

ADDITIONAL INSURED – OWNERS, LESSEES OR CONTRACTORS

This endorsement modifies insurance provided under the following:

COMMERCIAL GENERAL LIABILITY COVERAGE PART
CONTRACTORS POLLUTION LIABILITY COVERAGE PART

SCHEDULE

Name Of Additional Insured Person(s) or Organization(s)
Blanket when specifically required in a written contract with the named insured.

SECTION III – WHO IS AN INSURED within the Common Provisions is amended to include as an additional insured the person(s) or organization(s) indicated in the Schedule shown above, but only with respect to liability caused, in whole or in part, by “your work” for that insured which is performed by you or by those acting on your behalf.

ALL OTHER TERMS AND CONDITIONS OF THE POLICY REMAIN UNCHANGED.

Policy Number: EPK-14 14

THIS ENDORSEMENT CHANGES THE POLICY. PLEASE READ IT CAREFULLY.

PRIMARY AND NON-CONTRIBUTORY ADDITIONAL INSURED
WITH WAIVER OF SUBROGATION

This endorsement modifies insurance provided under the following:

COMMERCIAL GENERAL LIABILITY COVERAGE PART
CONTRACTORS POLLUTION LIABILITY COVERAGE PART
ERRORS AND OMISSIONS LIABILITY COVERAGE PART
THIRD PARTY POLLUTION LIABILITY COVERAGE PART

SCHEDULE

Name Of Additional Insured Person(s) or Organization(s)
Blanket when specifically required in a written contract with the named insured.

- A. **SECTION III – WHO IS AN INSURED** within the Common Provisions is amended to include as an additional insured the person(s) or organization(s) indicated in the Schedule shown above, but solely with respect to “claims” caused in whole or in part, by “your work” for that person or organization performed by you, or by those acting on your behalf.
- This insurance shall be primary and non-contributory, but only in the event of a named insured’s sole negligence.
- B. We waive any right of recovery we may have against the person(s) or organization(s) indicated in the Schedule shown above because of payments we make for “damages” arising out of “your work” performed under a designated project or contract with that person(s) or organization(s).
- C. This Endorsement does not reinstate or increase the Limits of Insurance applicable to any “claim” to which the coverage afforded by this Endorsement applies.

ALL OTHER TERMS AND CONDITIONS OF THE POLICY REMAIN UNCHANGED.

Policy Number: EPK-14 14

THIS ENDORSEMENT CHANGES THE POLICY. PLEASE READ IT CAREFULLY.

ADDITIONAL INSURED – OWNERS, LESSEES OR CONTRACTORS – COMPLETED OPERATIONS

This endorsement modifies insurance provided under the following:

COMMERCIAL GENERAL LIABILITY COVERAGE PART

SCHEDULE

Name of Additional Person(s) or Organization(s):	Location And Description Of Completed Operations
Blanket when specifically required in a written contract with the named insured.	Blanket when specifically required in a written contract with the named insured.
Information required to complete this Schedule, if not shown above, will be shown in the Declarations.	

A. Section III – Who Is An Insured within the Common Provisions is amended to include as an insured the person(s) or organization(s) shown in the Schedule, but only with respect to liability for “bodily injury” or “property damage” caused, in whole or in part, by “your work” at the location designated and described in the schedule of this endorsement performed for that additional insured and included in the “products-completed operations hazard”.

Policy Number: EPK-14 14

THIS ENDORSEMENT CHANGES THE POLICY. PLEASE READ IT CAREFULLY.

ADDITIONAL INSURED – OWNERS, LESSEES OR CONTRACTORS –
SCHEDULED PERSON OR ORGANIZATION

This endorsement modifies insurance provided under the following:

COMMERCIAL GENERAL LIABILITY COVERAGE PART

SCHEDULE

Name Of Additional Insured Person(s) Or Organization(s):	Location(s) of Covered Operations
Blanket when specifically required in a written contract with the named insured.	Blanket when specifically required in a written contract with the named insured.
Information required to complete this Schedule, if not shown above, will be shown in the Declarations.	

A. Section III – Who Is An Insured within the Common Provisions is amended to include as an additional insured the person(s) or organization(s) shown in the Schedule, but only with respect to liability for “bodily injury”, “property damage” or “personal and advertising injury” cause, in whole or in part, by:

1. Your acts or omissions; or
2. The acts or omissions of those acting on your behalf;

in the performance of your ongoing operations for the additional insured(s) at the location(s) designated above.

With respect to the insurance afforded to these additional insureds, the following additional exclusions apply:

This insurance does not apply to “bodily injury” or “property damage” occurring after:

3. All work, including materials, parts or equipment furnished in connection with such work, on the project (other than service, maintenance or repairs) to be performed by or on behalf of the additional insured(s) at the location of the covered operations has been completed; or
4. That portion of “your work” out of which the injury or damage arises has been put to its intended use by any person or organization other than another contractor or subcontractor engaged in performing operations for a principal as a part of the same project.

Policy Number: EPK-145420

THIS ENDORSEMENT CHANGES THE POLICY. PLEASE READ IT CAREFULLY.

WAIVER OF TRANSFER OF RIGHTS OF RECOVERY
AGAINST OTHERS TO US

This endorsement modifies insurance provided under the following:

COMMERCIAL GENERAL LIABILITY COVERAGE PART

SCHEDULE

Name of Person(s) or Organization(s)
Blanket when specifically required in a written contract with the named insured.
Information required to complete this Schedule, if not shown above, will be shown in the Declarations.

Section VI – Common Conditions, paragraph **17. Transfer Of Rights Of Recovery Against Others To Us** within the **Common Provisions** is amended by the addition of the following:

We waive any right of recovery we may have against the person or organization shown in the Schedule above because of payments we make for injury or “damages” arising out of your ongoing operations or “your work” done under a contract with that person or organization and included in the “products-completed operations hazard”. This waiver applies only to the person or organization shown in the Schedule above.

ALL OTHER TERMS AND CONDITIONS OF THE POLICY REMAIN UNCHANGED.

Policy Number: EPK-14□14□

THIS ENDORSEMENT CHANGES THE POLICY. PLEASE READ IT CAREFULLY.

LIMITED NOTICE OF CANCELLATION ENDORSEMENT

This endorsement modifies insurance provided under the following:

**COMMERCIAL GENERAL LIABILITY COVERAGE PART
CONTRACTORS POLLUTION LIABILITY COVERAGE PART
ERRORS AND OMISSIONS LIABILITY COVERAGE PART
ONSITE CLEANUP COVERAGE PART
THIRD PARTY POLLUTION LIABILITY COVERAGE PART**

In consideration of the premium charged and solely with respect to the coverage parts shown above, it is hereby agreed that the **Common Provisions**, Section **VI – Common Conditions** is amended by the addition of the following:

Limited Notice Of Cancellation

In the event that we cancel this Policy for any reason other than non-payment of premium and;

- a.** The effective date of cancellation is prior to the expiration date of this Policy; and
- b.** You are under an existing written contractual obligation to notify a certificate holder when this Policy is canceled and have provided to us, either directly or through your broker of record, the email address of a contact at each such certificate holder; and
- c.** We received this information after you received notice of cancellation of this Policy and prior to the effective date of cancellation, via an electronic spreadsheet that is acceptable to us,

We will provide notice of cancellation via email to each such certificate holder within thirty (30) days of your providing such information to us. Proof of our emailing the notice of cancellation, using the information provided by you, will serve as evidence that we have satisfied our obligations under this condition.

ALL OTHER TERMS AND CONDITIONS OF THE POLICY REMAIN UNCHANGED.


EXTENDED COVERAGE ENDORSEMENT - BA PLUS
THIS ENDORSEMENT CHANGES THE POLICY. PLEASE READ IT CAREFULLY.

This endorsement modifies insurance provided under the following:

BUSINESS AUTO COVERAGE FORM

I. LIABILITY COVERAGE
A. Who Is An Insured

The following is added to **SECTION II, Paragraph A.1., Who Is An Insured:**

1. a. Any incorporated entity of which the Named Insured owns a majority of the voting stock on the date of inception of this Coverage Form; **provided that,**
 - b. The insurance afforded by this provision **A.1.** does not apply to any such entity that is an **insured** under any other liability **policy** providing **auto** coverage.
2. Any organization you newly acquire or form, other than a limited liability company, partnership or joint venture, and over which you maintain majority ownership interest.

The insurance afforded by this provision **A.2.:**

- a. Is effective on the acquisition or formation date, and is afforded only until the end of the policy period of this Coverage Form, or the next anniversary of its inception date, whichever is earlier.
- b. Does not apply to:
 - (1) **Bodily injury or property damage** caused by an **accident** that occurred before you acquired or formed the organization; or
 - (2) Any such organization that is an **insured** under any other liability **policy** providing **auto** coverage.
3. Any person or organization that you are obligated to provide Insurance where required by a written contract or agreement is an insured, but only with respect to legal responsibility for acts or omissions of a person for whom Liability Coverage is afforded under this policy.
4. An **employee** of yours is an **insured** while operating an **auto** hired or rented under a contract or agreement in that **employee's** name, with your permission, while performing duties related to the conduct of your business.

Policy, as used in this provision **A. Who Is An Insured**, includes those policies that were in force on the inception date of this Coverage Form but:

1. Which are no longer in force; or
2. Whose limits have been exhausted.

B. Bail Bonds and Loss of Earnings

SECTION II, Paragraphs A.2.a.(2) and A.2.a.(4) are revised as follows:

1. In **a.(2)**, the limit for the cost of bail bonds is increased from \$2,000 to \$5,000, and
2. In **a.(4)**, the limit for the loss of earnings is increased from \$250 to \$500 a day.

C. Fellow Employee

SECTION II, Paragraph B.5 does not apply.

Form No: SCA 23 500 D (10-2011)

Endorsement Effective Date:

Endorsement No: 31; Page: 1 of 5

Underwriting Company: The Continental Insurance Company, 151 N Franklin St, Chicago, IL 60606

Endorsement Expiration Date:

Policy No: BUA 7063362068

Policy Effective Date: 10/04/2024

Policy Page: 133 of 161



Business Auto Policy Policy Endorsement

Such coverage as is afforded by this provision C. is excess over any other collectible insurance.

II. PHYSICAL DAMAGE COVERAGE

A. Towing

SECTION III, Paragraph A.2., is revised to include Light Trucks up to 10,000 pounds G.V.W.

B. Glass Breakage – Hitting A Bird Or Animal – Falling Objects Or Missiles

The following is added to **SECTION III, Paragraph A.3.**:

With respect to any covered **auto**, any deductible shown in the Declarations will not apply to glass breakage if such glass is repaired, in a manner acceptable to us, rather than replaced.

C. Transportation Expenses

SECTION III, Paragraph A.4.a. is revised, with respect to transportation expense incurred by you, to provide:

- a. \$60 per day, in lieu of \$20; subject to
- b. \$1,800 maximum, in lieu of \$600.

D. Loss of Use Expenses

SECTION III, Paragraph A.4.b. is revised, with respect to loss of use expenses incurred by you, to provide:

- a. \$1,000 maximum, in lieu of \$600.

E. Personal Property

The following is added to **SECTION III, Paragraph A.4.**

- c. We will pay up to \$500 for loss to **Personal Property** which is:

- (1) Owned by an **insured**; and
- (2) In or on the covered **auto**.

This coverage applies only in the event of a total theft of your covered **auto**.

This insurance is excess over any other collectible insurance and no deductible applies.

F. Rental Reimbursement

The following is added to **SECTION III, Paragraph A.4.**:

- d. We will pay for rental reimbursement expenses incurred by you for the rental of an **auto** because of **loss** to a covered **auto**. Payment applies in addition to the otherwise applicable amount of each coverage you have on a covered **auto**. No deductibles apply to this coverage.

- 1. We will pay only for those expenses incurred during the policy period beginning 24 hours after the **loss** and ending, regardless of the policy's expiration, with the lesser of the following number of days:

- (a) The number of days reasonably required to repair or replace the covered **auto**; or,
- (b) 15 days.

- 2. Our payment is limited to the lesser of the following amounts:

- (a) Necessary and actual expenses incurred; or,
- (b) \$25 per day subject to a maximum of \$375.

Form No: SCA 23 500 D (10-2011)

Endorsement Effective Date:

Endorsement No: 31; Page: 2 of 5

Underwriting Company: The Continental Insurance Company, 151 N Franklin St, Chicago, IL 60606

Endorsement Expiration Date:

Policy No: BUA 7063362068

Policy Effective Date: 10/04/2024

Policy Page: 134 of 161



**Business Auto Policy
Policy Endorsement**

3. This coverage does not apply while there are spare or reserve **autos** available to you for your operations.
4. If **loss** results from the total theft of a covered **auto** of the private passenger type, we will pay under this coverage only that amount of your rental reimbursement expenses which is not already provided for under the Physical Damage Coverage Extension.

G. Hired "Autos"

The following is added to **SECTION III. Paragraph A.:**

5. Hired Autos

If Physical Damage coverage is provided under this policy, and such coverage does not extend to Hired Autos, then Physical Damage coverage is extended to:

- a. Any covered **auto** you lease, hire, rent or borrow without a driver; and
- b. Any covered **auto** hired or rented by your **employee** without a driver, under a contract in that individual **employee's** name, with your permission, while performing duties related to the conduct of your business.
- c. The most we will pay for any one **accident** or **loss** is the actual cash value, cost of repair, cost of replacement or \$75,000 whichever is less minus a \$500 deductible for each covered auto. No deductible applies to **loss** caused by fire or lightning.
- d. The physical damage coverage as is provided by this provision will be limited to the types of physical damage coverage(s) provided on your owned **autos**.
- e. Such physical damage coverage for hired **autos** will:
 - (1) Include loss of use, provided it is the consequence of an **accident** for which the Named Insured is legally liable, and as a result of which a monetary loss is sustained by the leasing or rental concern.
 - (2) Such coverage as is provided by this provision **G.e.(1)** will be subject to a limit of \$750 per **accident**.

H. Airbag Coverage

The following is added to **SECTION III, Paragraph B.3.**

The accidental discharge of an airbag shall not be considered mechanical breakdown.

I. Electronic Equipment

SECTION III, Paragraphs B.4.c and B.4.d. are deleted and replaced by the following:

- c. Physical Damage Coverage on a covered **auto** also applies to **loss** to any permanently installed electronic equipment including its antennas and other accessories
- d. A \$100 per occurrence deductible applies to the coverage provided by this provision.

J. Diminution In Value

The following is added to **SECTION III, Paragraph B.6.**

Subject to the following, the **diminution in value** exclusion does not apply to:

- a. Any covered **auto** of the private passenger type you lease, hire, rent or borrow, without a driver for a period of 30 days or less, while performing duties related to the conduct of your business; and

Form No: SCA 23 500 D (10-2011)

Endorsement Effective Date:

Endorsement No: 31; Page: 3 of 5

Underwriting Company: The Continental Insurance Company, 151 N Franklin St, Chicago, IL 60606

Policy No: BUA 7063362068

Policy Effective Date: 10/04/2024

Policy Page: 135 of 161



Business Auto Policy Policy Endorsement

- b. Any covered **auto** of the private passenger type hired or rented by your **employee** without a driver for a period of 30 days or less, under a contract in that individual **employee's** name, with your permission, while performing duties related to the conduct of your business.
- c. Such coverage as is provided by this provision is limited to a **diminution in value** loss arising directly out of accidental damage and not as a result of the failure to make repairs; faulty or incomplete maintenance or repairs; or the installation of substandard parts.
- d. The most we will pay for **loss** to a covered **auto** in any one accident is the lesser of:
 - (1) \$5,000; or
 - (2) 20% of the **auto's** actual cash value (ACV)

III. Drive Other Car Coverage – Executive Officers

The following is added to **SECTIONS II and III**:

- 1. Any **auto** you don't own, hire or borrow is a covered **auto** for Liability Coverage while being used by, and for Physical Damage Coverage while in the care, custody or control of, any of your executive officers, except:
 - a. An **auto** owned by that **executive officer** or a member of that person's household; or
 - b. An **auto** used by that **executive officer** while working in a business of selling, servicing, repairing or parking **autos**.

Such Liability and/or Physical Damage Coverage as is afforded by this provision will be:

- (1) Equal to the greatest of those coverages afforded any covered **auto**; and
- (2) Excess over any other collectible insurance.
- 2. For purposes of this provision, **executive officer** means a person holding any of the officer positions created by your charter, constitution, by-laws or any other similar governing document, and, while a resident of the same household, includes that person's spouse.

Such **executive officers** are **insureds** while using a covered **auto** described in this provision.

IV. BUSINESS AUTO CONDITIONS

A. Duties In The Event Of Accident, Claim, Suit Or Loss

The following is added to **SECTION IV, Paragraph A.2.a.**

- (4) Your **employees** may know of an **accident** or **loss**. This will not mean that you have such knowledge, unless such **accident** or **loss** is known to you or if you are not an individual, to any of your executive officers or partners or your insurance manager.

The following is added to **SECTION IV, Paragraph A.2.b.**

- (6) Your **employees** may know of documents received concerning a claim or **suit**. This will not mean that you have such knowledge, unless receipt of such documents is known to you or if you are not an individual, to any of your executive officers or partners or your insurance manager.

B. Concealment, Misrepresentation or Fraud

The following is added to **SECTION IV, Paragraph B.2.**

Your failure to disclose all hazards existing on the date of inception of this Coverage Form shall not prejudice you with respect to the coverage afforded provided such failure or omission is not intentional.

C. Policy Period, Coverage Territory

SECTION IV, Paragraphs 7.(5).(a). is revised to provide:

Form No: SCA 23 500 D (10-2011)

Endorsement Effective Date:

Endorsement No: 31; Page: 4 of 5

Underwriting Company: The Continental Insurance Company, 151 N Franklin St, Chicago, IL 60606

Policy No: BUA 7063362068

Policy Effective Date: 10/04/2024

Policy Page: 136 of 161



- a. 45 days of coverage in lieu of 30 days

V. DEFINITIONS

SECTION V. Paragraph C. is deleted and replaced by the following:

Bodily injury means bodily injury, sickness or disease sustained by a person, including mental anguish, mental injury or death resulting from any of these

**PRIMARY AND NONCONTRIBUTORY - OTHER INSURANCE CONDITION****THIS ENDORSEMENT CHANGES THE POLICY. PLEASE READ IT CAREFULLY.**

This endorsement modifies insurance provided under the following:

AUTO DEALERS COVERAGE FORM

BUSINESS AUTO COVERAGE FORM

MOTOR CARRIER COVERAGE FORM

With respect to coverage provided by this endorsement, the provisions of the Coverage Form apply unless modified by the endorsement.

- A.** The following is added to the **Other Insurance** Condition in the BUSINESS AUTO COVERAGE FORM and the **Other Insurance - Primary And Excess Insurance Provisions** in the MOTOR CARRIER COVERAGE FORM and supersedes any provision to the contrary:

This Coverage Form's Covered Autos Liability Coverage is primary to and will not seek contribution from any other insurance available to an "**insured**" under your policy provided that:

1. Such "**insured**" is a Named Insured under such other insurance; and
2. You have agreed in writing in a contract or agreement that this insurance would be primary and would not seek contribution from any other insurance available to such "**insured**".

- B.** The following is added to the **Other Insurance** Condition in the AUTO DEALERS COVERAGE FORM and supersedes any provision to the contrary:

This Coverage Form's Covered Autos Liability Coverage and General Liability Coverages are primary to and will not seek contribution from any other insurance available to an "**insured**" under your policy provided that:

1. Such "**insured**" is a Named Insured under such other insurance; and
2. You have agreed in writing in a contract or agreement that this insurance would be primary and would not seek contribution from any other insurance available to such "**insured**".

Form No: CA 04 49 11 16

Endorsement Effective Date:

Endorsement No: 9; Page: 1 of 1

Underwriting Company: The Continental Insurance Company, 151 N Franklin St, Chicago, IL 60606

Endorsement Expiration Date:

Policy No: BUA 7063362068

Policy Effective Date: 10/04/2024

Policy Page: 68 of 161



WAIVER OF TRANSFER OF RIGHTS OF RECOVERY
AGAINST OTHERS TO US (WAIVER OF SUBROGATION)

THIS ENDORSEMENT CHANGES THE POLICY. PLEASE READ IT CAREFULLY.

This endorsement modifies insurance provided under the following:

- AUTO DEALERS COVERAGE FORM
- BUSINESS AUTO COVERAGE FORM
- MOTOR CARRIER COVERAGE FORM

With respect to coverage provided by this endorsement, the provisions of the Coverage Form apply unless modified by the endorsement.

This endorsement changes the policy effective on the inception date of the policy unless another date is indicated below.

Named Insured: TERRAPHASE ENGINEERING, INC

Endorsement Effective Date: 10/04/2024

SCHEDULE

Name(s) Of Person(s) Or Organization(s):

ANY PERSON OR ORGANIZATION FOR WHOM OR WHICH YOU ARE REQUIRED BY WRITTEN CONTRACT OR AGREEMENT TO OBTAIN THIS WAIVER FROM US. YOU MUST AGREE TO THAT REQUIREMENT PRIOR TO LOSS.

Information required to complete this Schedule, if not shown above, will be shown in the Declarations.

The **Transfer Of Rights Of Recovery Against Others To Us** condition does not apply to the person(s) or organization(s) shown in the Schedule, but only to the extent that subrogation is waived prior to the "accident" or the "loss" under a contract with that person or organization.



Aspen Specialty Insurance Company
POLICY NUMBER: EX00UFY24
RENEWAL OF: EX00UFY23

ITEM 8 SCHEDULE OF FOLLOWED POLICIES:

Insurer	Policy Number	Each Loss Limit	Aggregate Limit	Policy Period
Crum & Forster Specialty Insurance Co	EPK-149149	\$10,000,000	\$10,000,000	10/4/2024 - 10/4/2025

ITEM 9 SCHEDULE OF OTHER UNDERLYING POLICIES:

Insurer	Policy Number	Each Loss Limit	Aggregate Limit	Policy Period
Crum & Forster Specialty Insurance Co	EPK-149149	\$10,000,000	\$10,000,000	10/4/2024 - 10/4/2025
CNA Insurance Companies	TBD	\$1,000,000	\$1,000,000	10/4/2024 - 10/4/2025
CNA Insurance Companies	TBD	\$1,000,000	\$1,000,000	10/4/2024 - 10/4/2025

ITEM 10 NOTICES:

(a) Notices to first named insured:

Terraphase Engineering Inc.
 1300 Clay Street
 Suite 1000
 Oakland, CA 94612

(b) Notices to insurer of any matter or factor that may give rise to coverage under the Policy, including without limitation, occurrences, crisis events, emergency events, claims or pollution conditions or imminent threat thereof:

Aspen Specialty Insurance Company
 c/o Aspen Specialty Insurance Management, Inc.
 Newport Office Center III
 499 Washington Boulevard, 8th Floor
 Jersey City, NJ 07310

Main Tel: 646-502-1000
 Fax: 646-502-1020
 Email: environmental.claims@aspen-insurance.com

(c) All other notices to the insurer:

Aspen Specialty Insurance Company
 Attn: General Counsel
 Newport Office Center III
 499 Washington Boulevard, 8th Floor
 Jersey City, NJ 07310



Policy No.: EX00UFY24
Effective Date: 10/04/2024

COMMERCIAL ENVIRONMENTAL EXCESS FOLLOW FORM POLICY

In consideration of the payment of the premium when due and in reliance upon the statements and information in the application including any attachments and other materials provided therewith or incorporated therein and submitted in connection with the underwriting of any of the **underlying policies** or this Policy, the **insurer** agrees to provide coverage as follows:

I. INSURING AGREEMENT

The **insurer** will pay on the **insured's** behalf **ultimate net loss** resulting from injury, damages, loss, or clean-up costs arising from an incident or occurrence in excess of, and not in contribution with, the **underlying policies**. Except as otherwise provided in this Policy, this Policy shall follow all provisions, exclusions, limitations, and all other terms and conditions of the **followed policy**. In the event of a conflict between this Policy and the **followed policy**, this Policy shall govern and control. Notwithstanding any other provision of this Policy, in no event shall this Policy grant broader coverage than that provided to the **insured** under any of the **underlying policies**.

II. DEFENSE AND SETTLEMENT

- A. Prior to the exhaustion of the **total underlying limits**, the **insurer** has the right (but not the duty) to defend, and will be given the opportunity to associate in the defense of, any matter against any **insured** which may result in the obligation of the **insurer** to provide coverage under this Policy.
- B. Upon and following exhaustion of the **total underlying limits**, the **insurer** has the duty to assume the defense of the **insured** against any claim giving rise to an obligation of the **insurer** to provide coverage under this Policy. Upon exhaustion of the aggregate limit of liability set forth in Item 6. of the Declarations, the **insurer's** duty to defend, and all other duties to incur or pay any amounts under this Policy, shall terminate.
- C. Where the **insured** is legally entitled to select independent counsel when a duty to defend exists under this Policy, the **insurer** shall pay reasonable and necessary legal expenses; provided reasonable and necessary legal expenses for such independent counsel shall mean only those incurred: (i) for counsel qualified and experienced in defending claims similar to the subject pending claim; and (ii) at the rate which the **insurer** would actually pay for the defense of a similar claim in the subject community. Accordingly, any legal expense incurred for such independent counsel that does not meet the conditions precedent to coverage in (i) and (ii) above shall be at the sole expense of the **insured**.
- D. Expenses incurred pursuant to this Section II. shall be in addition to the aggregate limit of liability set forth in Item 6. of the Declarations, However, if in the provisions of the **followed policy**, any portions of any such expenses reduce the **total underlying limits**, then all such expenses will reduce such aggregate limit of liability set forth in Item 6. of the Declarations.

III. LIMIT OF LIABILITY

No matter the number of **insureds**, claims, claimants, or any other factor giving rise to any assertion of coverage under this Policy or under the **followed policy** or any **underlying policy**, the **insurer's** aggregate limit of liability under this Policy for all **ultimate net loss** is the amount set forth in Item 6. of the Declarations. The **insurer's** obligation to pay any portion of such aggregate limit of liability under this Policy applies: (i) only after the **total underlying limits** are fully paid and exhausted with respect to any one incident or occurrence; or (ii) after no **total underlying limits** can be paid as a result of exhaustion of all policy aggregate limits under all **underlying policies** applicable to the incident or occurrence.

In the event **total underlying limits** cannot be paid as a result of exhaustion of all policy aggregate limits under all **underlying policies**, this Policy shall apply subject to the terms, conditions, definitions and exclusions of the **followed policy**, except where in conflict with the terms of this Policy.

IV. EXCLUSIONS

In addition to the exclusions set forth in the **followed policy**, this Policy does not apply to **ultimate net loss** incurred by the **insured** due to, relating to, or arising from any of the following:

- A. Any obligation of the **insured** under a workers' compensation, disability benefits or unemployment compensation law or any similar law.
- B. Any obligation of the **insured** under ERISA or COBRA or any similar federal, state or local statute.
- C. Any bodily injury, personal injury or property damage arising from any (i) refusal to employ, (ii) wrongful termination or (iii) wrongful employment-related practices, policies, acts or omissions (including but not limited to coercion, demotion, evaluation, reassignment, discipline, defamation, harassment, humiliation or discrimination). This exclusion applies whether the **insured** may be liable as an employer or in any other capacity.
- D. Any loss, cost or expense payable under or resulting from any first party physical damage coverage, no-fault law, personal injury protection or auto medical payments coverage, or uninsured or underinsured motorist law.
- E. Any bodily injury, personal injury or property damage arising from war, whether or not declared, or any act or condition incident to war (including civil war, insurrection, rebellion or revolution).
- F. Any claims or damages arising from (i) the quality or performance of the **insured's** goods or the **insured's** failure to conform to standards, (ii) the failure of goods, products or services to conform with any statement of quality, price or performance made in any advertisement, (iii) the failure to supply or supply on time or (iv) product recall.
- G. Property damage to (i) property owned by the **insured**, (ii) premises the **insured** sells, gives away or abandons, (iii) property loaned to the **insured**, (iv) personal property in the care, custody or control of the **insured**, (v) that part of real property on which the **insured** or any contractors or subcontractors working directly or indirectly on the **insured's** behalf are performing operations, if the property damage arises out of those operations or (vi) that part of any property that must be restored, repaired or replaced because the **insured's** work was incorrectly performed on it. Provided however items (iii), (iv) and (v) do not apply to liability assumed under a sidetrack agreement.

Notwithstanding anything herein to the contrary, this Policy shall not apply to any coverage provided in any of the **underlying policies** to which this Policy would otherwise respond that has a sub-limit of less than \$1,000,000.

V. CONDITIONS

A. Appeals

If the insurer of any **underlying policies** or the **insured** elects not to appeal a judgment in excess of the **total underlying limits**, the **insurer** may do so at its own expense. The **insurer** will be liable for related taxable costs, pre- and post-judgment interest and disbursements, subject to the applicable limit of insurance.

B. Bankruptcy

The bankruptcy or insolvency of the **insured** will not relieve the **insurer** of its obligations under this Policy. The bankruptcy, insolvency or inability to pay of any underlying insurer providing any of the **underlying policies** will not relieve the **insurer** of its obligations under this Policy; provided the **insured** shall provide **written notice** of any such circumstances as soon as practicable. In any such event, this Policy will not drop down or replace any **underlying policies** and will apply only to the same extent as if such **underlying policies** were in full force and effect and such underlying insurers were solvent.

C. Cancellation

Except as set forth below, this Policy shall follow the cancellation terms of the **followed policy**; provided that notwithstanding any other provision of this Policy, in the event of cancellation of the **followed policy** or of this Policy for non-payment of premium or material fraud or misrepresentation in the application, this Policy shall be void as of the inception date of this **policy period** and no coverage shall be provided by this Policy.

The **first named insured** may cancel this Policy by mailing or delivering to **insurer** advance **written notice** of cancellation. The **insurer** may cancel this Policy by mailing or delivering to the **first named insured** **written notice** of cancellation at least 10 days before the effective date of cancellation if the **insurer** cancels for nonpayment of premium or 90 days before the effective date of cancellation if the **insurer** cancels for any other reason. The **insurer** will mail or deliver notice to the **first named insured's** mailing address set forth in item 10(a) of the Declarations. Notice of cancellation will state the effective date of cancellation. The **policy period** will end on that date. If this Policy is cancelled, the **insurer** will send the **first named insured** any premium refund due. If the **insurer** cancels, the refund will be pro rata. If the **first named insured** cancels, the refund may be less than pro rata. The cancellation will be effective even if the **insurer** has not made or offered a refund. If notice is mailed, proof of mailing shall be proof of notice.

D. Notices

Notice to any other insurer under any **underlying policy** shall not constitute notice under this Policy.

As a condition precedent to coverage under this Policy, the **insured** must provide **written notice** to the **insurer** at the address in item 10(b) of the Declarations and otherwise in the same manner and in the same time required under the **followed policy** of any incident giving rise to, or which is likely to give rise to, any assertion of coverage under the **underlying policies**, provided notice to any underlying insurer shall not constitute **written notice** under this Policy. Upon any such **written notice**, the premium shall become 100% earned and under no circumstances thereafter shall any return premium become due to the **insured**.

All other notices to the insurer shall be sent to the address in item 10(b) or 10(c) of the Declarations, as applicable, and otherwise in the same manner and in the same time required under the **followed policy**. All notices to the **insured** shall be sent to the address in item 10(a) of the Declarations and otherwise in the same manner and in the same time required under the **followed policy**.

E. Service of Suit

Service of process shall be made upon the **insurer's** counsel at the notice address provided in Item 10.c. of the Declarations. Further, pursuant to any statute of any state, territory, or district of the United States which makes provision therefore, the **insurer** hereby designates the Superintendent, Commissioner, Director of Insurance, or other officer specified for that purpose in the statute, or his or her successors in office as its true and lawful agent upon whom may be served any lawful process in any action, suit or proceeding instituted by or on behalf of an **insured** or any beneficiary arising out of this Policy. Nothing in this condition constitutes a waiver of the **insurer's** right to commence an action in any court of competent jurisdiction in the United States, to remove an action to a United States District Court, or to seek a transfer of a case to another court as permitted by the laws of the United States or of any state in the United States.

F. Underlying Policies

It is a condition precedent to coverage under this Policy that the **insured** maintain the **underlying policies** in full effect during this **policy period** except for any reduction or exhaustion of the limits thereof solely for payment of claims or expenses to which the **underlying policies** and this Policy apply. Failure of the **insured** to maintain the **underlying policies** shall not invalidate this Policy, provided, however, in the event of such failure, the **insurer** shall only be liable to the same extent as it would have been had the **insured** maintained such **underlying policies**.

The **insured** shall provide to the **insurer** the copies of the bound **underlying policy(ies)** as soon as practicable after they are received by the **insured**. This Policy shall provide coverage excess of the **underlying policy(ies)** and follow all terms and conditions of the **followed policy**, provided that the **underlying policy(ies)** are consistent with the bound coverage agreed to, and in accordance with the warranties, terms, conditions, exclusions, and limitations contained in the binder(s) for the **underlying policy(ies)**. If there are any differences and/or inconsistencies in coverage between the binder and the bound and issued **underlying policy(ies)**, such differences and/or inconsistencies shall not be binding upon the **insurer** unless: (i) the **insurer** agrees to follow such changes by written endorsement issued by the **insurer** and made part of this Policy; and (ii) the **insured** pays any additional premium when due as required by the **insurer** to cover such changes.

Further, if any terms of the **underlying policies** are changed in any manner from those in effect as of the date of inception of this **policy period**, the **insured** shall give the **insurer written notice** as soon as practicable. Such changes made to the **followed policy** during this **policy period** are not automatically included in this Policy but may be incorporated herein only if and when: (i) the **insurer** agrees to follow such changes by written endorsement issued by the **insurer** and made part of this Policy; and (ii) the **insured** pays any additional premium when due as required by the **insurer** to cover such changes.

This insurance is excess over, and shall not contribute with the **underlying policies**. The **insurer** has no duty under this Policy to defend the **insured** against any claim if any underlying insurer has a duty to defend the **insured** against that claim. If no other insurer defends, the **insurer** will undertake to do so, but will be entitled to the **insured's** rights against all those other insurers.

G. Unimpaired Aggregate

In the event any underlying insurance aggregate limit is not in full effect as of the inception date of this Policy, the amount by which the underlying insurance aggregate limit has been impaired shall be borne by the insured.

H. Representations

By accepting this Policy, the **insured** agrees that (i) the statements in the Declaration are accurate and complete, (ii) such statements are based upon representations made by the **insured** to the **insurer**, (iii) the **insurer** has issued this Policy in reliance upon the **insured's** representations and (iv) this Policy is void ad initio (from the beginning) in any case of fraud by the **insured** as it relates to this Policy or any claim under this Policy.

I. Audits

The **insurer** has the right, but not the obligation, to make inspections and surveys at any time and recommend any changes relating to the **insured's** insurability and the premiums to be charged under this Policy. The **insurer** does not warrant that the conditions of the **insured** applicable to this Policy are safe or healthful, or comply with applicable laws or standards.

J. Economic and Trade Sanctions

Notwithstanding anything to the contrary provided within this Policy, and as a condition precedent to the obligations of the **insurer** under this Policy, this insurance does not apply to the extent that trade or economic sanctions or other similar laws or regulations prohibit the **insurer** from providing insurance.

VI. EXTENDED REPORTING PERIOD

Any automatic extended reporting period or renewal extended reporting period applicable in an **underlying policy** shall also apply to this Policy in the same manner. Any optional extended reporting period that is available and purchased under an **underlying policy** will be made available under this Policy for the same duration subject to the same terms and conditions in the applicable **underlying policy**, and provided that each of the following is satisfied:

- A. A written request for the optional extended reporting period is made by the **insured** and received by the **insurer** within thirty (30) days after termination of coverage as defined in the applicable **underlying policy**.

- B. The **insured** pays the additional premium determined by the **insurer** under this Policy to the **insurer** when due. If that additional premium is paid when due, the extended reporting period may not be cancelled, provided that all other terms and conditions of this Policy are met.
- C. When an optional extended reporting period is available for purchase under this Policy, the premium will not exceed 200% of the premium set forth in Item 4.(c) of the Declarations plus all additional premium charged and will be fully earned when the coverage is purchased.
- D. No applicable extended reporting period shall reinstate or increase any limits of insurance of this Policy.

VII. DEFINITIONS

Unless otherwise defined herein, any terms used in this Policy shall follow the meaning provided in the **followed policy**.

- A. **First named insured** means the entity shown in Item 1. of the Declarations, which entity shall act on behalf of any other **insureds** for the payment or return of premium, negotiation, receipt and acceptance of any endorsement issued by the **insurer** and made part of this Policy, and giving or receiving notice of cancellation of this Policy.
- B. **Followed policy** means the policy (including all parts thereof in effect as of the inception date of this **policy period**) identified in Item 8. of the Declarations.
- C. **Insured** means the **first named insured** and any other person or entity insured under the **underlying policies**.
- D. **Insurer** means the entity identified in Item 10.c. of the Declarations.
- E. **Policy period** means the period of time referenced in Item 3. of the Declarations, or any shorter period of time that may occur due to the cancellation or termination of this Policy.
- F. **Total underlying limits** means the total deductible or retention applicable for each loss under all such **underlying policies**; plus the total each loss limit under all such **underlying policies** applicable to each loss.
- G. **Underlying policies** means the **followed policy** and all policies set forth in Item 9. of the Declarations.
- H. **Ultimate net loss** means the total sums paid or payable that the **insured** becomes legally obligated to pay after making deductions for all recoveries, salvages or other valid and collectible insurance, excepting the **underlying policies**.
- I. **Written notice** means notice delivered in writing to the **insurer** at the applicable address set forth in Item 10. of the Declarations which shall include the Policy Number as set forth in Item 2. of the Declarations.



Workers Compensation And Employers Liability Insurance
Policy Endorsement

WAIVER OF OUR RIGHT TO RECOVER FROM OTHERS ENDORSEMENT

We have the right to recover our payments from anyone liable for an injury covered by this policy. We will not enforce our right against the person or organization named in the Schedule. This agreement applies only to the extent that you perform work under a written contract that requires you to obtain this agreement from us.

This agreement shall not operate directly or indirectly to benefit anyone not named in the Schedule.

Schedule

Any Person or Organization on whose behalf you are required to obtain this waiver of our right to recover from under a written contract or agreement.

The premium charge for the endorsement is reflected in the Schedule of Operations.

All other terms and conditions of the policy remain unchanged.

This endorsement, which forms a part of and is for attachment to the policy issued by the designated Insurers, takes effect on the Policy Effective Date of said policy at the hour stated in said policy, unless another effective date (the Endorsement Effective Date) is shown below, and expires concurrently with said policy unless another expiration date is shown below.

Form No: WC 00 03 13 (04-1984)

Endorsement Effective Date:

Endorsement Expiration Date:

Endorsement No: 5; Page: 1 of 1

Underwriting Company: National Fire Insurance Company of Hartford, 151 N Franklin St, Chicago, IL
60606

Policy No: WC 7 40301196

Policy Effective Date: 10/04/2024

Policy Page: 100 of 158



Workers Compensation And Employers Liability Insurance
Policy Endorsement

BLANKET WAIVER OF OUR RIGHT TO RECOVER FROM OTHERS

This endorsement changes the policy to which it is attached.

It is agreed that **Part One - Workers’ Compensation Insurance G. Recovery From Others** and **Part Two - Employers’ Liability Insurance H. Recovery From Others** are amended by adding the following:

We will not enforce our right to recover against persons or organizations. (This agreement applies only to the extent that you perform work under a written contract that requires you to obtain this agreement from us.)

PREMIUM CHARGE - Refer to the Schedule of Operations

The charge will be an amount to which you and we agree that is a percentage of the total standard premium for California exposure. The amount is 3%.

All other terms and conditions of the policy remain unchanged.

This endorsement, which forms a part of and is for attachment to the policy issued by the designated Insurers, takes effect on the Policy Effective Date of said policy at the hour stated in said policy, unless another effective date (the Endorsement Effective Date) is shown below, and expires concurrently with said policy unless another expiration date is shown below.



Aspen Specialty Insurance Company

POLICY NUMBER: EX00UFY24

RENEWAL OF: EX00UFY23

COMMERCIAL ENVIRONMENTAL EXCESS FOLLOW FORM DECLARATIONS

**ASPEN SPECIALTY INSURANCE COMPANY
NEWPORT OFFICE CENTER III
499 WASHINGTON BOULEVARD, 8th FLOOR
JERSEY CITY, NJ 07310**

(A stock insurance company incorporated under the laws of North Dakota hereinafter called the "Insurer")

ITEM 1 FIRST NAMED INSURED – NAME AND MAILING ADDRESS

Terraphase Engineering Inc.

1300 Clay Street

Suite 1000

Oakland, CA 94612

ITEM 2 POLICY NUMBER: EX00UFY24

ITEM 3 POLICY PERIOD:

(a) Inception Date: 10/04/2024

(b) Expiration Date: 10/04/2025

As respects the dates shown above in this Item 3, as of 12:01 a.m. on such date in the time zone applicable to the address set forth in Item 10(a) of these Declarations.

ITEM 4 PREMIUM:

(a) Policy Premium:

(b) Premium for Certified Acts of Terrorism Coverage:

(c) Total Premium:

ITEM 5 FORMS & ENDORSEMENTS ATTACHED TO THIS POLICY AT INCEPTION:

SEE SCHEDULE OF FORMS AND ENDORSEMENTS

ITEM 6 POLICY AGGREGATE LIMIT OF LIABILITY: \$6,000,000

ITEM 7 UNDERLYING LIMITS: \$10,000,000

Does not include retentions and may vary based on Underlying Coverage