AMENDMENT NO. 2 TO CONSULTING SERVICES AGREEMENT BETWEEN THE CITY OF SAN LEANDRO AND TERRAPHASE ENGINEERING, INC. FOR ENVIRONMENTAL DESIGN SERVICES FOR A TREATMENT WETLAND AT THE CITY OF SAN LEANDRO WATER POLLUTION CONTROL PLANT

This **Amendment No.2** ("Amendment") is made by and between the City of San Leandro ("City") and Terraphase Engineering, Inc. ("Consultant") (together sometimes referred to as the "Parties") as of August 4, 2022, and amends that certain Consulting Services Agreement ("Agreement") dated October 15, 2019, between the Parties.

WHEREAS, City and Consultant have executed the Agreement, pursuant to which Consultant has provided certain consulting services to City with regard to environmental design services for a treatment wetland at the City of San Leandro Water Pollution Control Plant, and

WHEREAS, the Parties desire to amend the Agreement to add additional scope to the design and engineering of the .

NOW THEREFORE, for good and valuable consideration, the sufficiency of which is hereby acknowledged, the Parties hereby agree to amend the Agreement as follows:

1. Section 1.1 of the Agreement entitled "Term of Services" is hereby amended to extend the term from October 15, 2021, to June 30, 2024; and

2. Section 2 of the Agreement entitled "Compensation" is hereby amended to pay Consultant a sum not to exceed $911,239; and

3. Exhibit A of the Agreement entitled "Scope of Services" is hereby amended to add Tasks 12 through 16 presented below in Exhibit A, attached hereto and incorporated herein by reference; and

4. Exhibit B of the Agreement entitled "Compensation Schedule & Reimbursable Expenses" is hereby amended to include:

Task 12	$5,354
Task 13	$64,187.00
Task 14	$14,248.00
Task 15	$2,860.00
Task 16	$27,292.00
Total – All tasks 1 through 16	$911,239

5. All other terms shall remain in full force and effect.

This Amendment may be executed in multiple counterparts, each of which shall be an original and all of which together shall constitute one agreement.

SIGNATURES ON FOLLOWING PAGE

The Parties have executed this Amendment as of the date first written above. The persons whose signatures appear below certify that they are authorized to sign on behalf of the respective Party.

CITY OF SAN LEANDRO

DocuSigned by:
Fran Robustelli
C063C023AF624E3...
Frances Robustelli, City Manager

TERRAPHASE ENGINEERING, INC.

DocuSigned by:
Lucas Paz
B8FE8783D3824AD...
Lucas Paz, Principal Hydrologist

Attest:

DocuSigned by:
Kelly B. Clancy
F21D2CCCC7E54D6...
for
~~Docu~~Signed by:
Leticia I. Miguel, City Clerk

Budget Approved: x

Approved as to Fiscal Authority:

DocuSigned by:
Scott Kell
97444E47633E4CB...
Susan Hsieh, Finance Director

593-52-276-5120
Account Number

Approved as to Form:

DocuSigned by:
Richard Pio Roda
7B41538E6D5E470...
Richard D. Pio Roda, City Attorney

DocuSigned by:
Debbie Pollart
79AB70E06E05400...
Debbie Pollart, Director of Public Works

Attachment A
Additional Scope of Services

Task 12 -- Seed Collection and On-Site Nursery Plant Propagation Services

Oaktown Native Plant Nursery (Oaktown Nursery) will initiate project support services by coordinating with Megan Stromberg/Terraphase to develop a project-specific seed collection and contract grow plant propagation plan. Oaktown Nursery will collect, sort, and clean the specified native plant seed material (collected from approved source locations) required to support the San Leandro Treatment Wetland Project planting plan. Following completion of seed collection services, Oaktown Nursery will establish an on-site nursery at the City of San Leandro Water Pollution Control Plant (at a specific on-site location and using an approved water source as directed by the City of San Leandro WPCP staff) to propagate the native plant species required for the project.

Task 13 -- MABR system re-design

The City proposes to move the location of the MABR nitrification system to a different location than originally planned. Task 12 includes work required to modify the design, which includes conducting the associated required technical studies and supporting additional project related services requested by the City. The supporting technical studies would include an expanded topographic survey of the new proposed MABR location, an updated geotechnical investigation to support design of the nitrification system upstream of the treatment wetland, structural engineering support by Response Structural Engineers (RSE), updated electrical engineering design support by Presidio Systems (Presidio).
treatment wetland vegetation operation, a project-specific air quality analysis to support the CEQA evaluation, and maintenance recommendations to be provided by our project landscape architect Megan Stromberg (MWS Consulting).
Assumptions:

- The City of San Leandro will provide Terraphase and subcontractors site access to perform the scope of work in this proposal.
- This proposal includes modification to the sheets listed above under Task 12 and the preparation of up to three additional new sheets.
- The engineering design drawings will be finalized to address one set of consolidated comments from the City after the 90% drawings are provided for City review.
- This proposal does not cover additional regulatory agency coordination and/or agency permitting fees.
- This proposal does not include construction management services.
- This proposal does not include redesigning other elements of the treatment wetland facility other than the MABR system and supporting utilities as described above.

Task 13.1 – General Engineering Design and Site Improvement Plan Revisions

Terraphase will develop updated grading and utility design elements to support the proposed MABR system re-design. All plan drawings, details and sections will be developed in digital format using AutoCAD. Drawings will be prepared in AutoCAD, following agreed-upon drafting standards. We will provide design drafts provided to the City for review and comment, incorporating City feedback into the

design documents prior to finalization. The updated design drawings will be provided to the City for review at the 90% level and revised based on City comments to support design finalization.

The following sheets are anticipated to be revised:

- G013 (Project Overview)

- C101 (Nitrification System Grading)
- C102 (Nitrification Pad Profiles and Details)
- C403 (Grading Details)
- CP010 (Piping Overview)
- CP101 (Piping Effluent Diversion to Nitrification Plan and Profile)
- CP102 (Nitrification System to Wetland Piping Plan and Profile)
- CP104 (WPCP Bypass Plan and Profile)
- CP105 (Hydraulic Distribution Piping North Plan and Profile)
- S020 (Foundation Plan, Elevation, & Details)
- M101 (Nitrification Facility Details)
- M102 (MABR Piping)
- E101 (Nitrification System Site Plan)
- E102 (Nitrification System Single Line Diagram)
- E301 (Electrical Details 1)
- E302 (Electrical Nitrification System Single Line Diagram)

Task 13.2 – Geotechnical Investigation

Task 12b (Geotechnical Investigation) is broken down into three subtasks: Task 12.2.a (Field Preparation), Task 12.2.b (Field Investigation), and Task 12.2.c (Data Review and Recommendations). An updated geotechnical investigation is required to support foundation layout and design of the nitrification system upstream of the treatment wetland in the new proposed sludge drying bed location. The findings will govern geotechnical and seismic decisions associated with the development of the Membrane Aerated Biofilm Reactor (MABR) concrete pad and subgrade design. Results of the geotechnical investigation will be used to determine subgrade preparation, differential settlement precautions, pad construction and seismic restraints. Terraphase will subcontract ConeTec to conduct four Cone Penetration Test (CPT) borings along the extent of the proposed concrete pad. CPT technology provides a continuous soil profile while being minimally invasive with no soil cuttings. Terraphase's geotechnical engineer (Jeff Raines) will evaluate results of the field investigation and provide specifications and design recommendations to be incorporated in the revised design plan set. Prior to the geotechnical investigation, Terraphase will apply and secure the required Alameda County permit and visit the site with a private utility locator to clear the CPT boring locations.

Task 13.3 – Topographic Survey

An updated site topographic survey will be required to support the development of the revised improvement plans for the new proposed MABR system layout. Towill will conduct the updated topographic survey and prepare the associated survey deliverables.

Task 13.4 – Structural Engineering Design

The structural engineering scope includes modification of the current design based on a new site plan. The scope includes foundation design, fabricated steel mezzanine structure design, and anchorage/foundation design for various supporting equipment. Foundations will be designed in accordance with a geotechnical investigation. RSE will provide additional pipe support details as required. Pipe supports are assumed to be constructed of steel and have shallow concrete foundations. Max pipe size is anticipated to be 10" in diameter.

The structural scope of services includes the following for each scope item:

a. Coordination with engineering team

b. Structural plans and calculations

c. Response to comments Structural service items include:

- (16) Reinforced concrete grade beam foundations, approximately 40' long x 8'wide (Items listed for a, b, and c above). Includes modifying current layout and detail callouts on drawings.
- (1) Steel support structures (Items a, b, and c above). Includes structure design and equipment/pipe support details. Assume that the equipment/piping related to water treatment is by others.
- Miscellaneous Piping Support and Equipment Anchorage. Housekeeping pads, anchorage of select equipment, stoops, and stairs on grade.

Response Structural Engineers (RSE) will prepare updated structural engineering and foundation design drawings.

- Schematic Design and Concept coordination.
- Structural Calculations and Drawings for foundation of (15) storage containers including anchorage. Assumes conventional shallow foundation system.
- Design of pipe supports and elevated fine screen platform and associated structural elements.

Task 13.5 – Electrical Engineering Design

Presidio Systems will prepare the updated electrical engineering design documentation to support the MABR system re-design and to support the routing of electrical conduit and electrical control lines extended to the treatment wetland outlet vault.

Task 13.6 – Technical Specification Revisions

Terraphase will prepare updates to the Project Technical Specifications to support the MABR re-design and updated improvement plans.

Task 14 – Vegetation Management and Sediment Removal Operation and Maintenance Plan

Terraphase will prepare a Vegetation Management and Sediment Removal Operation and Maintenance Plan for the Treatment Wetland to address ongoing vegetation monitoring and management and sediment management procedures. MWS will provide vegetation management operation and maintenance recommendations and support preparation of the Vegetation Management and Sediment Removal Operation and Maintenance Plan.

Vegetation Management can be divided into two phases which may require different levels of service and activities: 1) establishment and 2) long-term maintenance.

1) Establishment Phase:

- Replace or substitute failed plantings at pre-set intervals (Year 1, Year 2 and/or 3)

- Invasive species are most likely to establish in Year 1. Set target maximums for cover and control invasive species in accordance with Integrated Pest Management techniques appropriate within wetlands (targets may be prescribed by agencies)

- Address erosion issues to minimize sediment inputs with short- and long-term BMPs such as wattles (short-term) and re-seeding (long-term)

2) Long-Term Maintenance:

- Adaptive management of plant species and cover - would include monitoring and addressing any plants that conflict with the water distribution system such as aggressive roots of willow or replanting areas where invasive species have been removed, including the consideration of replacement species.

- Mosquito abatement: limiting and managing dense emergent vegetation, maintaining vegetation-free and/or deep-water areas is beneficial to minimizing mosquito habitat.

- Coordinate timing of vegetation removal below the waterline with wildlife biologists.

- Sediment Management will consist of periodic sedimentation monitoring and sediment removal activities to maintain ongoing capacity of the treatment wetland basin.

The estimated cost for preparation of a draft and final version of the Vegetation Management and Sediment Removal Operation and Maintenance Plan is $14,248.

Task 15 – Project-Specific Air Quality Analysis to Support CEQA Review

Terraphase will perform an air quality analysis in conjunction with the California Environmental Quality Act (CEQA) review process for the construction of the Treatment Wetland Project.

To determine any potential environmental impacts on the surrounding area as a result of project implementation, air quality analysis (including greenhouse gas [GHG] emissions estimates) will be prepared in accordance with Bay Area Air Quality Management District (BAAQMD) CEQA Air Quality Guidelines (May 2017). The analysis will evaluate short-term impacts associated with the construction activities and long-term impacts associated with the operation of the Treatment Wetland Project. Air emissions will be estimated using the current version of the California Emissions Estimator Model (CalEEMod) or other appropriate methods. Emissions estimates will be compared to the significance thresholds identified by the BAAQMD in Appendix D of the CEQA Air Quality Guidelines. The analysis will also evaluate the project for conformance with state and local GHG reduction plans, policies, and regulations, including the City of San Leandro Climate Action Plan (adopted 2021), Assembly Bill 32 (AB32) Global Warming Solutions Act of 2006, and Senate Bill 32 (SB32) emissions limits.

This proposal does not include the preparation of a Health Risk Assessment. Terraphase assumes that the City project team will provide detailed construction and operation schedules identifying proposed phasing and equipment needs.

Construction Air Quality and GHG Analysis

Short-term impacts and exposures of nearby residents and other sensitive receptors, if any, to criteria

pollutants and toxic air contaminants (TACs) during project construction will be estimated by the application of guidance provided by the California Air Resources Board (CARB), the California Air Pollution Control Officers Association (CAPCOA), and the BAAQMD Risk and Hazard Screening Analysis Tools. Potential sources of emissions during the construction phase may include

stockpiling, hauling, excavation, and grading activities, as well as emissions from equipment and vehicles on paved/unpaved surfaces.

The significance of all identified impacts will be evaluated using criteria developed by the BAAQMD for construction exposures. Strategies for mitigating the potential impacts will be identified based on BAAQMD Guidelines, and may include:

- Implementing controls of construction equipment and activities; and
- Phasing and/or limiting construction activity so that local exposure to pollutants and TACs is minimized.

The goal for the application of such mitigation strategies would be to reduce any identified project or cumulative air pollutant or TAC impact to levels below the significance criteria identified in the BAAQMD Guidelines.

Operational Air Quality and GHG Analysis

Long-term impacts and exposures of nearby residents and other sensitive receptors, if any, to criteria pollutants and TACs during project operation will be estimated by the application of guidance provided by CARB, CAPCOA, and the BAAQMD Risk and Hazard Screening Analysis Tools. Potential sources of emissions during project operation may include utilization of pump and blower systems to process wastewater.

The significance of all identified impacts will be evaluated using criteria developed by the BAAQMD for project operational exposures. Strategies for mitigating the potential impacts will be identified based on BAAQMD Guidelines, and may include:

- Applying emission controls for project sources;
- Altering operational procedures that emit pollutants/TACs; and
- Establishing buffer zones between project pollutant sources and sensitives land uses, if any.

The goal for the application of such mitigation strategies would be to reduce long-term exposures for any identified cumulative air pollutant or TAC impact to levels below the significance criteria identified in the BAAQMD Guidelines.

Operational Air Quality Impacts – Electrical Power Use

Terraphase will prepare an analysis of the proposed project's impacts to the environment through use of electrical power and conformance with state and local plans for renewable energy and energy efficiency. Terraphase will work with the design and construction management team to identify the current energy use associated with the project site, anticipated fuel usage during construction of the proposed project, and projected energy use upon operation of the proposed project.

The total estimated cost for the air quality analysis described above is $13,860. Terraphase will apply the remainder of our currently available existing budget to cover the majority of this task cost ($11,000); however, an additional $2,860 is required to support completion of the analysis and is included under Task 8 of this proposal.

Task 16 – Project Management

Terraphase will continue to provide general project management support services including monthly project team meetings, general coordination and communications and project account management. This task assumes a total of six Principal level project management related hours per month and two hours of administrative level hours per month from June 2022 through December 2023.