

**CITY OF UPLAND
PROFESSIONAL SERVICES AGREEMENT**

This Agreement is made and entered into as of December 12, 2022 by and between the City of Upland, a public agency organized and operating under the laws of the State of California with its principal place of business at 460 N. Euclid Avenue, Upland, CA 91786 ("City"), and Brown and Caldwell, a California Corporation with its principal place of business at 18500 Von Karman Avenue, Suite 1100, Irvine, CA 92612 (hereinafter referred to as "Consultant"). City and Consultant are sometimes individually referred to as "Party" and collectively as "Parties" in this Agreement.

RECITALS

A. City is a public agency of the State of California and is in need of professional services for the following project:

2023 Wastewater Collection System Master Plan Update (hereinafter referred to as "the Project").

B. Consultant is duly licensed and has the necessary qualifications to provide such services.

C. The Parties desire by this Agreement to establish the terms for City to retain Consultant to provide the services described herein.

AGREEMENT

NOW, THEREFORE, IT IS AGREED AS FOLLOWS:

1. Services.

Consultant shall provide the City with the services described in the Scope of Services attached hereto as Exhibit "A."

2. Compensation.

a. Subject to paragraph 2(b) below, the City shall pay for such services in accordance with the Schedule of Charges set forth in Exhibit "B."

b. Except as otherwise set forth in Section 2C the total amount paid for services rendered by Consultant under this Agreement shall not exceed the sum of \$543,696.00. This amount is to cover all printing and related costs, and the City will not pay any additional fees for printing expenses. Periodic payments shall be made within 30 days of receipt of an invoice which includes a detailed description of the work performed. Payments to Consultant for work performed will be made on a monthly billing basis.

c. The City Manager may approve Additional Work, as further defined in Section 3, up to fifty thousand dollars (\$50,000.00). In no event shall the total sum of the agreement (original compensation amount and Additional Work) exceed fifty thousand dollars (\$50,000.00). Any additional work in excess of this amount shall be approved by the City Council.

3. Additional Work.

If changes in the work seem merited by Consultant or the City, and informal consultations with the other party indicate that a change is warranted, it shall be processed in the following manner: a letter outlining the changes shall be forwarded to the City by Consultant with a statement of estimated changes in fee or time schedule. An amendment to this Agreement shall be prepared by the City and executed by both Parties before performance of such services, or the City will not be required to pay for the changes in

the scope of work. Such amendment shall not render ineffective or invalidate unaffected portions of this Agreement.

4. Maintenance of Records.

Books, documents, papers, accounting records, and other evidence pertaining to costs incurred shall be maintained by Consultant and made available at all reasonable times during the contract period and for four (4) years from the date of final payment under the contract for inspection by City.

5. Time of Performance.

The term of this Agreement shall be from December 12, 2022, to December 12, 2023 unless earlier terminated as provided herein. The Parties may, by mutual, written consent, extend the term of this Agreement if necessary to complete the Project. Consultant shall perform its services in a prompt and timely manner within the term of this Agreement and shall commence performance upon receipt of written notice from the City to proceed ("Notice to Proceed"). The Notice to Proceed shall set forth the date of commencement of work.

6. Delays in Performance.

a. Neither City nor Consultant shall be considered in default of this Agreement for delays in performance caused by circumstances beyond the reasonable control of the non-performing party. For purposes of this Agreement, such circumstances include but are not limited to, abnormal weather conditions; floods; earthquakes; fire; epidemics; pandemics; war; riots and other civil disturbances; strikes, lockouts, work slowdowns, and other labor disturbances; sabotage or judicial restraint.

b. Should such circumstances occur, the non-performing party shall, within a reasonable time of being prevented from performing, give written notice to the other party describing the circumstances preventing continued performance and the efforts being made to resume performance of this Agreement.

7. Compliance with Law.

a. Consultant shall comply with all applicable laws, ordinances, codes and regulations of the federal, state and local government, including Cal/OSHA requirements.

b. If required, Consultant shall assist the City, as requested, in obtaining and maintaining all permits required of Consultant by federal, state and local regulatory agencies.

c. If applicable, Consultant is responsible for all costs of clean up and/ or removal of hazardous and toxic substances spilled as a result of his or her services or operations performed under this Agreement.

8. Standard of Care

Consultant's services will be performed in accordance with generally accepted professional practices and principles and in a manner consistent with the level of care and skill ordinarily exercised by members of the profession currently practicing under similar conditions.

9. Assignment and Subconsultant

Consultant shall not assign, sublet, or transfer this Agreement or any rights under or interest in this Agreement without the written consent of the City, which may be withheld for any reason. Any attempt to so assign or so transfer without such consent shall be void and without legal effect and shall constitute grounds for termination. Subcontracts, if any, shall contain a provision making them subject to all provisions

stipulated in this Agreement. Nothing contained herein shall prevent Consultant from employing independent associates, and subconsultants as Consultant may deem appropriate to assist in the performance of services hereunder.

10. Independent Contractor

Consultant is retained as an independent contractor and is not an employee of City. No employee or agent of Consultant shall become an employee of City. The work to be performed shall be in accordance with the work described in this Agreement, subject to such directions and amendments from City as herein provided.

a. PERS Eligibility Indemnification

In the event that Consultant or any employee, agent, or subcontractor of Consultant providing services under this Agreement claims or is determined by a court of competent jurisdiction or the California Public Employees Retirement System ("PERS") to be eligible for enrollment in PERS as an employee of the City, Consultant shall indemnify, defend, and hold harmless City for the payment of any employee and/or employer contributions for PERS benefits on behalf of Consultant or its employees, agents, or subcontractors, as well as for the payment of any penalties and interest on such contributions, which would otherwise be the responsibility of City.

Notwithstanding any other agency, state or federal policy, rule, regulation, law or ordinance to the contrary, Consultant and any of its employees, agents, and subcontractors providing service under this Agreement shall not qualify for or become entitled to, and hereby agree to waive any claims to, any compensation, benefit, or any incident of employment by City, including but not limited to eligibility to enroll in PERS as an employee of City and entitlement to any contribution to be paid by City for employer contribution and/or employee contributions for PERS benefits.

11. Insurance. Consultant shall not commence work for the City until it has provided evidence satisfactory to the City it has secured all insurance required under this section. In addition, Consultant shall not allow any subcontractor to commence work on any subcontract until it has secured all insurance required under this section.

a. Commercial General Liability

(i) The Consultant shall take out and maintain, during the performance of all work under this Agreement, in amounts not less than specified herein, Commercial General Liability Insurance, in a form and with insurance companies acceptable to the City.

(ii) Coverage for Commercial General Liability insurance shall be at least as broad as the following:

(1) Insurance Services Office Commercial General Liability coverage (Occurrence Form CG 00 01) or exact equivalent.

(iii) Commercial General Liability Insurance must include coverage for the following:

- (1) Bodily Injury and Property Damage
- (2) Personal Injury/Advertising Injury
- (3) Premises/Operations Liability
- (4) Products/Completed Operations Liability
- (5) Aggregate Limits that Apply per Project
- (6) Explosion, Collapse and Underground (UCX) exclusion deleted
- (7) Contractual Liability with respect to this Agreement

- (8) Property Damage
- (9) Independent Contractors Coverage

(iv) The policy shall contain no endorsements or provisions limiting coverage for (1) contractual liability; (2) cross liability exclusion for claims or suits by one insured against another; (3) products/completed operations liability; or (4) contain any other exclusion contrary to the Agreement.

(v) The policy shall give City, its officials, officers, employees, agents and City designated volunteers additional insured status using ISO endorsement forms CG 20 10 10 01 and 20 37 10 01, or endorsements providing the exact same coverage.

(vi) The general liability program may utilize either deductibles or provide coverage excess of a self-insured retention, subject to written approval by the City, and provided that such deductibles shall not apply to the City as an additional insured.

b. Automobile Liability

(i) At all times during the performance of the work under this Agreement, the Consultant shall maintain Automobile Liability Insurance for bodily injury and property damage including coverage for owned, non-owned and hired vehicles, in a form and with insurance companies acceptable to the City.

(ii) Coverage for automobile liability insurance shall be at least as broad as Insurance Services Office Form Number CA 00 01 covering automobile liability (Coverage Symbol 1, any auto).

(iii) The policy shall give City, its officials, officers, employees, agents and City designated volunteers additional insured status.

(iv) Subject to written approval by the City, the automobile liability program may utilize deductibles, provided that such deductibles shall not apply to the City as an additional insured, but not a self-insured retention.

c. Workers' Compensation/Employer's Liability

(i) Consultant certifies that he/she is aware of the provisions of Section 3700 of the California Labor Code which requires every employer to be insured against liability for workers' compensation or to undertake self-insurance in accordance with the provisions of that code, and he/she will comply with such provisions before commencing work under this Agreement.

(ii) To the extent Consultant has employees at any time during the term of this Agreement, at all times during the performance of the work under this Agreement, the Consultant shall maintain full compensation insurance for all persons employed directly by him/her to carry out the work contemplated under this Agreement, all in accordance with the "Workers' Compensation and Insurance Act," Division IV of the Labor Code of the State of California and any acts amendatory thereof, and Employer's Liability Coverage in amounts indicated herein. Consultant shall require all subconsultants to obtain and maintain, for the period required by this Agreement, workers' compensation coverage of the same type and limits as specified in this section.

d. Professional Liability (Errors and Omissions)

At all times during the performance of the work under this Agreement the Consultant shall maintain professional liability or Errors and Omissions insurance appropriate to its profession, in a form and with insurance companies acceptable to the City and in an amount indicated herein. This insurance shall be endorsed to include contractual liability applicable to this Agreement and shall be written on a policy form

specifically designed to protect against acts, errors or omissions of the Consultant. "Covered Professional Services" as designated in the policy must specifically include work performed under this Agreement. The policy must "pay on behalf of" the insured and must include a provision establishing the insurer's duty to defend.

e. Minimum Policy Limits Required

(i) The following insurance limits are required for the Agreement:

	<u>Combined Single Limit</u>
Commercial General Liability	\$1,000,000 per occurrence/ \$2,000,000 aggregate for bodily injury, personal injury, and property damage
Automobile Liability	\$1,000,000 combined single limit
Employer's Liability	\$1,000,000 per accident or disease
Professional Liability	\$1,000,000 per claim and aggregate (errors and omissions)

(ii) Defense costs shall be payable in addition to the limits.

(iii) Requirements of specific coverage or limits contained in this section are not intended as a limitation on coverage, limits, or other requirement, or a waiver of any coverage normally provided by any insurance. Any available coverage shall be provided to the parties required to be named as Additional Insured pursuant to this Agreement.

f. Evidence Required

Prior to execution of the Agreement, the Consultant shall file with the City evidence of insurance from an insurer or insurers certifying to the coverage of all insurance required herein. Such evidence shall include original copies of the ISO CG 00 01 (or insurer's equivalent) signed by the insurer's representative and Certificate of Insurance (Acord Form 25-S or equivalent), together with required endorsements. All evidence of insurance shall be signed by a properly authorized officer, agent, or qualified representative of the insurer and shall certify the names of the insured, any additional insureds, where appropriate, the type and amount of the insurance, the location and operations to which the insurance applies, and the expiration date of such insurance.

g. Policy Provisions Required

(i) Consultant shall provide the City at least thirty (30) days prior written notice of cancellation of any policy required by this Agreement, except that the Consultant shall provide at least ten (10) days prior written notice of cancellation of any such policy due to non-payment of premium. If any of the required coverage is cancelled or expires during the term of this Agreement, the Consultant shall deliver renewal certificate(s) including the General Liability Additional Insured Endorsement to the City at least ten (10) days prior to the effective date of cancellation or expiration.

(ii) The Commercial General Liability Policy and Automobile Policy shall each contain a provision stating that Consultant's policy is primary insurance and that any insurance, self-insurance or other coverage maintained by the City or any named insureds shall not be called upon to contribute to any loss.

(iii) The retroactive date (if any) of each policy is to be no later than the effective date of this Agreement. Consultant shall maintain such coverage continuously for a period of at least three

years after the completion of the work under this Agreement. Consultant shall purchase a one (1) year extended reporting period A) if the retroactive date is advanced past the effective date of this Agreement; B) if the policy is cancelled or not renewed; or C) if the policy is replaced by another claims-made policy with a retroactive date subsequent to the effective date of this Agreement.

(iv) All required insurance coverages, except for the professional liability coverage, shall contain or be endorsed to provide a waiver of subrogation in favor of the City, its officials, officers, employees, agents, and volunteers or shall specifically allow Consultant or others providing insurance evidence in compliance with these specifications to waive their right of recovery prior to a loss. Consultant hereby waives its own right of recovery against City, and shall require similar written express waivers and insurance clauses from each of its subconsultants.

(v) The limits set forth herein shall apply separately to each insured against whom claims are made or suits are brought, except with respect to the limits of liability. Further the limits set forth herein shall not be construed to relieve the Consultant from liability in excess of such coverage, nor shall it limit the Consultant's indemnification obligations to the City and shall not preclude the City from taking such other actions available to the City under other provisions of the Agreement or law.

h. Qualifying Insurers

(i) All policies required shall be issued by acceptable insurance companies, as determined by the City, which satisfy the following minimum requirements:

(1) Each such policy shall be from a company or companies with a current A.M. Best's rating of no less than A:VII and admitted to transact in the business of insurance in the State of California, or otherwise allowed to place insurance through surplus line brokers under applicable provisions of the California Insurance Code or any federal law.

i. Additional Insurance Provisions

(i) The foregoing requirements as to the types and limits of insurance coverage to be maintained by Consultant, and any approval of said insurance by the City, is not intended to and shall not in any manner limit or qualify the liabilities and obligations otherwise assumed by the Consultant pursuant to this Agreement, including but not limited to, the provisions concerning indemnification.

(ii) If at any time during the life of the Agreement, any policy of insurance required under this Agreement does not comply with these specifications or is canceled and not replaced, City has the right but not the duty to obtain the insurance it deems necessary and any premium paid by City will be promptly reimbursed by Consultant or City will withhold amounts sufficient to pay premium from Consultant payments. In the alternative, City may cancel this Agreement.

(iii) The City may require the Consultant to provide complete copies of all insurance policies in effect for the duration of the Project.

(iv) Neither the City nor any of its officials, officers, employees, agents or volunteers shall be personally responsible for any liability arising under or by virtue of this Agreement.

j. Subconsultant Insurance Requirements. Consultant shall not allow any subcontractors or subconsultants to commence work on any subcontract until they have provided evidence satisfactory to the City that they have secured all insurance required under this section. Policies of commercial general liability insurance provided by such subcontractors or subconsultants shall be endorsed to name the City as an additional insured using ISO form CG 20 38 04 13 or an endorsement providing the exact same coverage. If requested by Consultant, City may approve different scopes or minimum limits of insurance for particular subcontractors or subconsultants.

12. Indemnification.

a. To the fullest extent permitted by law, Consultant shall defend (with counsel of City's choosing), indemnify and hold the City, its officials, officers, employees, volunteers, and agents free and harmless from any and all claims, demands, causes of action, costs, expenses, liability, loss, damage or injury of any kind, in law or equity, to property or persons, including wrongful death, in any manner arising out of, pertaining to, or incident to any acts, errors or omissions, or willful misconduct of Consultant, its officials, officers, employees, subcontractors, consultants or agents in connection with the performance of the Consultant's services, the Project or this Agreement, including without limitation the payment of all damages, expert witness fees and attorney's fees and other related costs and expenses. Consultant's obligation to indemnify shall not be restricted to insurance proceeds, if any, received by Consultant, the City, its officials, officers, employees, agents, or volunteers.

b. If Consultant's obligation to defend, indemnify, and/or hold harmless arises out of Consultant's performance of "design professional" services (as that term is defined under Civil Code section 2782.8), then, and only to the extent required by Civil Code section 2782.8, which is fully incorporated herein, Consultant's indemnification obligation shall be limited to claims that arise out of, pertain to, or relate to the negligence, recklessness, or willful misconduct of the Consultant, and, upon Consultant obtaining a final adjudication by a court of competent jurisdiction, Consultant's liability for such claim, including the cost to defend, shall not exceed the Consultant's proportionate percentage of fault.

13. California Labor Code Requirements.

a. Consultant is aware of the requirements of California Labor Code Sections 1720 et seq. and 1770 et seq., which require the payment of prevailing wage rates and the performance of other requirements on certain "public works" and "maintenance" projects ("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, Consultant agrees to fully comply with such Prevailing Wage Laws. Consultant shall defend, indemnify and hold the City, its officials, officers, employees and agents free and harmless from any claims, liabilities, costs, penalties or interest arising out of any failure or alleged failure to comply with the Prevailing Wage Laws. It shall be mandatory upon the Consultant and all subconsultants to comply with all California Labor Code provisions, which include but are not limited to prevailing wages (Labor Code Sections 1771, 1774 and 1775), employment of apprentices (Labor Code Section 1777.5), certified payroll records (Labor Code Sections 1771.4 and 1776), hours of labor (Labor Code Sections 1813 and 1815) and debarment of contractors and subcontractors (Labor Code Section 1777.1). The requirement to submit certified payroll records directly to the Labor Commissioner under Labor Code section 1771.4 shall not apply to work performed on a public works project that is exempt pursuant to the small project exemption specified in Labor Code Section 1771.4.

b. If the services are being performed as part of an applicable "public works" or "maintenance" project, then pursuant to Labor Code Sections 1725.5 and 1771.1, the Consultant and all subconsultants performing such services must be registered with the Department of Industrial Relations. Consultant shall maintain registration for the duration of the Project and require the same of any subconsultants, as applicable. Notwithstanding the foregoing, the contractor registration requirements mandated by Labor Code Sections 1725.5 and 1771.1 shall not apply to work performed on a public works project that is exempt pursuant to the small project exemption specified in Labor Code Sections 1725.5 and 1771.1.

c. This Agreement may also be subject to compliance monitoring and enforcement by the Department of Industrial Relations. It shall be Consultant's sole responsibility to comply with all applicable registration and labor compliance requirements. Any stop orders issued by the Department of Industrial Relations against Consultant or any subcontractor that affect Consultant's performance of services, including any delay, shall be Consultant's sole responsibility. Any delay arising out of or resulting from such stop orders shall be considered Consultant caused delay and shall not be compensable by the

City. Consultant shall defend, indemnify and hold the City, its officials, officers, employees and agents free and harmless from any claim or liability arising out of stop orders issued by the Department of Industrial Relations against Consultant or any subcontractor.

14. Verification of Employment Eligibility.

By executing this Agreement, Consultant verifies that it fully complies with all requirements and restrictions of state and federal law respecting the employment of undocumented aliens, including, but not limited to, the Immigration Reform and Control Act of 1986, as may be amended from time to time, and shall require all subconsultants and sub-subconsultants to comply with the same.

15. Reserved.

16. Laws and Venue.

This Agreement shall be interpreted in accordance with the laws of the State of California. If any action is brought to interpret or enforce any term of this Agreement, the action shall be brought in a state or federal court situated in the County of San Bernardino, State of California.

17. Termination or Abandonment

a. City has the right to terminate or abandon any portion or all of the work under this Agreement by giving ten (10) calendar days written notice to Consultant. In such event, City shall be immediately given title and possession to all original field notes, drawings and specifications, written reports and other documents produced or developed for that portion of the work completed and/or being abandoned. City shall pay Consultant the reasonable value of services rendered for any portion of the work completed prior to termination. If said termination occurs prior to completion of any task for the Project for which a payment request has not been received, the charge for services performed during such task shall be the reasonable value of such services, based on an amount mutually agreed to by City and Consultant of the portion of such task completed but not paid prior to said termination. City shall not be liable for any costs other than the charges or portions thereof which are specified herein. Consultant shall not be entitled to payment for unperformed services, and shall not be entitled to damages or compensation for termination of work.

b. Consultant may terminate its obligation to provide further services under this Agreement upon thirty (30) calendar days' written notice to City only in the event of substantial failure by City to perform in accordance with the terms of this Agreement through no fault of Consultant.

18. Documents. Except as otherwise provided in "Termination or Abandonment," above, all original field notes, written reports, Drawings and Specifications and other documents, produced or developed for the Project shall, upon payment in full for the services described in this Agreement, be furnished to and become the property of the City.

19. Organization

Consultant shall assign Amy Martin as Project Manager. The Project Manager shall not be removed from the Project or reassigned without the prior written consent of the City.

20. Limitation of Agreement.

This Agreement is limited to and includes only the work included in the Project described above.

21. Notice

Any notice or instrument required to be given or delivered by this Agreement may be given or delivered by depositing the same in any United States Post Office, certified mail, return receipt requested, postage prepaid, addressed to:

CITY:

City of Upland

460 N. Euclid Avenue

Upland, CA 91786

Attn: Public Works Director

CONSULTANT:

Brown and Caldwell

18500 Von Karman Avenue, Suite 1100

Irvine, CA 92612

Attn: Amy Martin

and shall be effective upon receipt thereof.

22. Third Party Rights

Nothing in this Agreement shall be construed to give any rights or benefits to anyone other than the City and the Consultant.

23. Equal Opportunity Employment.

Consultant represents that it is an equal opportunity employer and that it shall not discriminate against any employee or applicant for employment because of race, religion, color, national origin, ancestry, sex, age or other interests protected by the State or Federal Constitutions. 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.

24. Entire Agreement

This Agreement, with its exhibits, represents the entire understanding of City and Consultant as to those matters contained herein, and supersedes and cancels any prior or contemporaneous oral or written understanding, promises or representations with respect to those matters covered hereunder. Each Party acknowledges that no representations, inducements, promises or agreements have been made by any person which are not incorporated herein, and that any other agreements shall be void. This Agreement may not be modified or altered except in writing signed by both Parties hereto. This is an integrated Agreement.

25. Severability

The unenforceability, invalidity or illegality of any provision(s) of this Agreement shall not render the remaining provisions unenforceable, invalid or illegal.

26. Successors and Assigns

This Agreement shall be binding upon and shall inure to the benefit of the successors in interest, executors, administrators and assigns of each Party to this Agreement. However, Consultant shall not assign or transfer by operation of law or otherwise any or all of its rights, burdens, duties or obligations without the prior written consent of City. Any attempted assignment without such consent shall be invalid and void.

27. Non-Waiver

None of the provisions of this Agreement shall be considered waived by either Party, unless such waiver is specifically specified in writing.

28. Time of Essence

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

29. City's Right to Employ Other Consultants

City reserves its right to employ other consultants, including engineers, in connection with this Project or other projects.

30. Prohibited Interests

Consultant maintains and warrants that it has not employed nor retained any company or person, other than a bona fide employee working solely for Consultant, to solicit or secure this Agreement. Further, Consultant warrants that it has not paid nor has it agreed to pay any company or person, other than a bona fide employee working solely for Consultant, any fee, commission, percentage, brokerage fee, gift or other consideration contingent upon or resulting from the award or making of this Agreement. For breach or violation of this warranty, City shall have the right to rescind this Agreement without liability. For the term of this Agreement, no director, official, officer or employee of City, during the term of his or her service with City, shall have any direct interest in this Agreement, or obtain any present or anticipated material benefit arising therefrom.

[SIGNATURES ON FOLLOWING PAGE]

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**SIGNATURE PAGE FOR PROFESSIONAL SERVICES AGREEMENT
BETWEEN CITY OF UPLAND
AND BROWN AND CALDWELL**

IN WITNESS WHEREOF, the Parties have executed this Agreement as of the date first written above.

CITY OF UPLAND

BROWN AND CALDWELL

By: _____


Michael Blay
City Manager

By: _____



Its: _____

Vice President

Printed Name: _____

Mike Puccio

ATTEST: _____

By: _____


Keri Johnson
City Clerk

By: _____



Its: _____

Senior - Vice President

Printed Name: _____

Daniel A. Bunce

APPROVED AS TO FORM:

PP.



Stephen Deitsch, City Attorney

EXHIBIT A

Scope of Services

TASK 1: PROJECT MANAGEMENT, COORDINATION, AND MEETINGS

TASK 1.1 | PROJECT MANAGEMENT & COORDINATION

This task includes managing the project team to track time and budget, work elements accomplished, work items planned for the next period, and budget needed to complete the project. This task also includes the preparation of monthly progress reports that will include the status of tasks, summary of budget, potential issues or concerns, and next steps. The effort of this task is based on a twelve (12) month project duration. In addition, BC will prepare a detailed project schedule with pertinent milestones for all tasks and subtasks. The first schedule and workflow plan will be presented at the kickoff meeting and will be updated on an as-needed basis.

Since the projects will be managed as two separate contracts, the level of effort was only slightly reduced with the assumption that progress reports will be combined with the Water and Recycled Water System Master Plan Update.

TASK 1.2 | PROGRESS MEETINGS

BC will attend up to twelve (12) virtual progress meetings (including the kick-off meeting). An agenda will be provided prior to the progress meetings and notes will be prepared and provided to the City after the meeting. In addition, a detailed action item and decision log will be maintained throughout the project to facilitate smooth project execution and clearly delineate responsibilities and deadlines. It is assumed that progress meetings will be two (2) hours in duration.

The level of effort for progress meetings has been reduced with the assumption that up to 5 progress meeting will be consolidated and performed in coordination with the Water and Recycled Water System Master Plan Update. Coordination between the two projects is critical to maintain consistency and cohesiveness.

TASK 1.3 | CITY COMMITTEE, COUNCIL, OR WORKSHOPS

BC will coordinate and attend up to four (4) in-person City Committee, Council, or Workshop meetings with City staff and/or stakeholders to obtain input on the City's sewer system, connection points, and conversions from septic to sewer in the unincorporated areas that may not overlap with the water service area. An agenda and notes will be prepared and provided to the City after the meeting. It is assumed that workshops and City Council meetings will be up to four (4) hours in duration. In addition, in preparation for the City Council meetings, a Power Point presentation will be prepared.

It is assumed that three of the meetings under this task will combined with the Water and Recycled Water System Master Plan Update project. A reduced level of effort was included for additional meeting materials required for the City's collection system.

TASK 1.4 | QUALITY ASSURANCE AND QUALITY CONTROL

BC will perform QA/QC at key milestones throughout the project. Submittals to the City shall include a cover sheet signed by QA/QC lead indicating that a review was completed and the submittal is satisfactory for delivery to the City.

Deliverables for Task 1: Agendas, Meeting Notes, Action & Decision Log, Schedule Updates, City Council Power Point Presentations, Monthly Progress Reports, and QA/QC Cover Sheets

It is assumed that the Master Plan report deliverables will be integrated with the Water and Recycled Water System Master Plan Update project. Therefore, the level of effort was reduced to only include the hydraulic model calibration, system analysis, and collection system recommendations.

TASK 2: RESEARCH AND DATA ACQUISITION

TASK 2.1 | DATA COLLECTION LIST AND UPDATES

BC will prepare a prioritized data collection list to track the status of various documents and coordinate with the City to identify a centralized location to share data, such as, a SharePoint site.

TASK 2.2 | DATA COLLECTION AND REVIEW

BC will collect and perform a cursory review the City's relevant planning documents provided in the FP as well as the latest GIS and customer billing data, general plan land-use information, demand and flow forecasting studies, feasibility studies, record drawings, and any other pertinent data. The in-depth evaluation of information will be performed under subsequent tasks. It is assumed that the data collected as part of the *Water and Recycled Water Master Plan Update* will be used to develop planning projections. Areas that are not included within the water service area may require additional coordination to obtain necessary billing and water usage data.

The data collection list will be combined and maintained with the existing data collection list developed for the Water and Recycled Water System Master Plan Update. The level of effort assumes adding wastewater specific data needs and a cursory review.

Deliverables for Task 2: Data Collection List

TASK 3: SYSTEM ANALYSIS

TASK 3.1 | SUMMARIZE EXISTING COLLECTION SYSTEM

BC will summarize the City's existing collection system infrastructure and recent infrastructure projects. The collection system facilities will be summarized in a table and documented in the Master Plan Update. In addition, existing agreements with partnering or regional agencies will be summarized.

TASK 3.2 | PERFORM SYSTEM RESILIENCE ANALYSIS

BC will perform a resilience analysis that identifies collection system vulnerabilities and recommends alternatives to address improve system resilience and operational flexibility. For budgeting purposes, up to three (3) system failure scenarios—such as a trunk failure due to seismic activity—will be performed to assess system resiliency needs. BC will work with City staff to develop the system failure scenarios. The analysis will be summarized with figures and documented in the Master Plan update. Projects to address resiliency needs will be developed under Task 6.

TASK 3.3 | REVIEW THE CITY'S FOG CONTROL AND SSO RESPONSE PROGRAMS

BC will review the City's history of fat, oil, and grease (FOG) issues and sanitary sewer overflows (SSOs) to identify possible improvements to the FOG control and SSO response programs. This review and subsequent recommendations will be documented in the Master Plan update and may be incorporated into the City's SSMP update (Optional Task 9.2). BC will consider proposed changes to the Sanitary Sewer System General

Order, which will impact the future SSMP reporting requirements, including streamlining data, incorporating other SSO related issues

TASK 3.4 | DRAFT SYSTEM ANALYSIS REPORT SECTIONS

BC will consolidate information reviewed and analysis performed under Task 3.1 through 3.3 to draft the System Analysis report sections. The deliverable will be provided under Task 8.

Deliverables for Task 3: Summary Tables of Existing System Infrastructure, figures illustrating the Resilience Analysis, and recommended updates to the FOG Control and SSO Response Programs

TASK 4: EXISTING AND FUTURE SYSTEM FLOWS (CAPACITY ANALYSIS)

TASK 4.1 | SUMMARIZE HISTORICAL FLOW DATA

Historical flows and discharges to the IEUA regional collection system and the diversions to the City's minor sewersheds (Claremont and Montclair) will be compiled and summarized from the previous 5-years. Water billing data will be reviewed and analyzed to establish the relationship between potable water use and existing collection system flows and prepare for the initial loading of dry weather flows to the collection system hydraulic model. It is assumed that the City will provide data in a usable format. Data will be summarized in a table and graphic format and documented within the Master Plan Update.

TASK 4.2 | UPDATE LAND USE PROJECTIONS AND WORKSHOP

This task will be coordinated with the *Water and Recycled Water System Master Plan Update* effort. Under the *Master Plan Update* effort, BC will use the City's GIS, general plan, and current zoning map as well as other pertinent planning documents and discussions with the City's development staff to describe the current and proposed land uses within the City's service area and update the sewer flow factors using the latest data (in coordination with Task 4.3 and Task 4.4). A supplemental workshop may be scheduled (as needed) to review future land use (focusing on areas of potential septic conversion) and sewer flow factors developed as part of existing planning studies. Any sewer-specific questions to be discussed with the City (following the planning workshop) will be covered in a Progress Meeting, budgeted under Task 1.

The workshop will be combined with the existing *Water and Recycled Water System Master Plan Update*. Therefore, the level of effort for preparation and travel time has been reduced. It is also assumed that the same baseline General Plan land use data and future developments will be used for both projects.

TASK 4.3 | EVALUATE POTENTIAL FUTURE SCENARIO OUTCOMES

BC will review the conservation and supply scenarios developed as part of the *Water and Recycled Water System Master Plan Update* effort as well as historic discharge records to establish a range of future flow scenarios in 5-year increments through buildout (or year 2045) based on the potential variation in future water demands. The evaluation and planned scenarios will be discussed with the City to identify the baseline that will be used for the system capacity assessment (Task 6), which will be documented in the Master Plan Update and provided to the City under Task 8.

TASK 4.4 | SUMMARIZE PROJECTED WASTEWATER FLOWS

Utilizing the City's latest billing data and land use changes identified under Task 4.3 as well as the future variability reviewed under Task 4.3, a land use-based flow projection will be developed in 5-year increments through buildout (or by 2045). The flow factors developed as part of Task 4.2 and the analysis will be summarized in a table and documented within the Master Plan Update. Flow factors will be compared with existing planning studies and regional reports that IEUA has developed.

TASK 4.5 | DRAFT EXISTING AND FUTURE FLOW REPORT SECTIONS

BC will consolidate information and analysis performed under Task 4.1 through 4.4 to draft the existing and future capacity analysis report sections. The deliverable will be provided under Task 8.

Deliverables for Task 4: Summary Tables of Existing & Projected Flows and a Range of Future Flows.

TASK 5: WASTEWATER SYSTEM MODEL

TASK 5.1 | DEVELOP HYDRAULIC MODEL

Model Development

The City's previous hydraulic model was developed using obsolete software and is no longer accessible. As part of this effort, BC will develop a new hydraulic model using a selected software with input from the City. For budgeting purposes, PCSWMM is assumed for the model development and will be based on the City's latest GIS data including all pipelines 8-inches and larger. It is assumed that the City's GIS data is up to date and mostly complete (e.g. limited missing pipe inverts and diameters or rim elevations). For those areas with missing or inconsistent data, BC will review record drawings to confirm model accuracy. For budgeting purposes, up to 0 hours has been included to review record drawings and update the City's GIS and modeled facilities to reflect the City's latest system. If additional time is required after an initial review of the GIS and model is performed, BC will coordinate with the City and discuss before proceeding. The model development and GIS update will be discussed with City staff in progress meetings, which is budgeted under Task 1.

Wastewater Flow Allocation

Existing wastewater flows will be allocated within the hydraulic model to obtain a spatial distribution of the flows, which will be based on a review of parcel, billing, and water use data.

TASK 5.2 | DRAFT AND FINAL CALIBRATION PLAN

A draft and final calibration plan will be developed, which will describe data to be collected for model calibration. It is assumed that the City, IEUA, and Montclair/Claremont (connections to minor sewersheds) have flow monitoring or metering data suitable for model calibration (15-min increments for a recent dry- and wet- weather period) representative of the City's entire collection system. If not, BC recommends Optional Task 9. (Flow Monitoring), which will provide the necessary data—and include a detailed flow monitoring plan—for model calibration.

TASK 5.3 | MODEL CALIBRATION AND WORKSHOP

Dry Weather Calibration

Diurnal patterns (or hydrographs for each metered subbasin) will be developed to represent the hourly flow fluctuations based on dry weather flow. BC will assign dry weather flow to model subbasins using a customer-based approach. The dry weather flows will include base wastewater flows, based on water consumption data, and groundwater infiltration (GWI), based on a comparison of modeled to metered flows.

BC will use the wastewater flow factors developed under Task 4.4 and prepare tables and graphs using Excel comparing the calculated flows and the observed flows for all locations where flow monitoring was performed. Results will be discussed with City staff during the Model Calibration Workshop.

Wet Weather Calibration

Building on the dry weather calibration effort, BC will develop rainfall dependent infiltration and inflow (RDI/I)

factors for the collection system based on observed I/I from flow monitoring data. BC will prepare tables and graphs using Excel comparing the calculated flows and the observed flows for all locations where flow monitoring was performed. Results will be discussed with City staff during the Model Calibration Workshop.

The final calibrated model will be used as the foundation for the evaluation of existing and future conditions. The final results will be compiled and included in the Draft and Final Modeling Technical Memorandum under Task 5.5 and included as an appendix in the Master Plan Report (Task 8).

TASK 5.4 | DEVELOP EXISTING AND BUILDOUT SCENARIOS IN MODEL

The calibrated model will be used as a baseline when setting up the existing and buildout scenarios (or 2045) in the hydraulic model. The flow projections developed under Task 4 will be used when developing the future scenario, including up to two (2) additional sensitivity scenarios based on the range of projected flows. The system analysis will be performed under Task 6, which will identify the need for existing and future facilities. These facilities will be added into the model under Task 6.

TASK 5.5 | DRAFT AND FINAL MODELING TECHNICAL MEMORANDUM

A Draft and Final Modeling TM will be developed to summarize the work completed as part of Task 5.1 through 5.4. the TM will include a summary of the construction of the hydraulic model, demand sets developed, calibration activities, and tables/graphs/figures that document the accuracy of the model calibration results.

TASK 5.6 | HYDRAULIC MODELING SOFTWARE

BC will provide guidance to the City to support their acquisition of three licenses of PCSWMM so that the City make|take ownership of the hydraulic model and use it for future updates and additional studies. However, the licenses will be discussed with City staff prior to contract execution and project kickoff. Licenses of PCSWMM (as well as other software vendors like Innovyze) are based on an annual subscription that must be directly purchased by the City. BC will assist with obtaining the necessary license for use by City staff. The City must sign the contract directly with the selected software vendor.

TASK 5.7 | MODEL TRAINING

Upon completion of the model and Master Plan Update, a 2-day training will be scheduled with City staff using the selected software. It is assumed that the City will provide workstations and licenses for the training. A copy of the final model will be provided for the City's future use.

Deliverables for Task 5: Draft & Final Calibration Plan (electronic copy), Power Points for Model Calibration Workshop, Draft & Final Modeling TM (electronic copy), software licenses, and the Final Wastewater Model.

TASK 6: SYSTEM IMPROVEMENTS/RECOMMENDATIONS

TASK 6.1 | ESTABLISH EVALUATION CRITERIA

BC will work with City staff to establish the design and hydraulic criteria to be used for assessing the capacity of existing sewer facilities and sizing new facilities (including maximum d/D values, slopes, and depth of cover). BC will also identify approaches for defining an appropriate design storm. BC will review criteria used by neighboring agencies to identify possible criteria baselines and will collaborate with City staff to determine the City's desired level of service and risk when establishing performance criteria under design storm conditions (e.g. acceptable level of surcharge). The evaluation criteria will be discussed with City staff in a progress meeting, which is budgeted under Task 1.

TASK 6.2 | EXISTING CAPACITY EVALUATION OF WASTEWATER SYSTEM

The calibrated hydraulic model developed under Task 5 will be used to perform an existing system evaluation to

identify areas that do not meet the performance criteria established under Task 6.1. This effort will include consideration of possible boundary conditions present at the IEUA interceptor discharge locations. The model will be used to size improvements to meet the criteria. Deficiencies identified will be discussed with City staff in a progress meeting, which is budgeted under Task 1. The model and GIS figures will be used to demonstrate the results and recommended improvements to mitigate deficiencies. The figures will be included in the Master Plan Update under Task 8.

TASK 6.3 | FUTURE CAPACITY EVALUATION OF WASTEWATER SYSTEM

Building on the existing system evaluation performed under Task 6, the hydraulic model will be used to perform a future system evaluation to identify areas that do not meet the performance criteria under buildout conditions (or year 2045) and to understand potential changes to those findings under the two (2) sensitivity scenarios. The model will be used to size improvements to meet the criteria. Deficiencies identified will be discussed with City staff in a progress meeting, which is budgeted under Task 1. The model and GIS figures will be used to demonstrate the results and recommended improvements to mitigate deficiencies. The combined improvements that are related to existing deficiencies and growth will be identified by a percent split when developing the CIP as part of Task 6.5. The figures will be included in the Master Plan Update under Task 8.

TASK 6.4 | DEVELOP SYSTEM RESILIENCE PROJECTS

Based on the findings of Task 3.2, BC will develop projects to increase system resilience and operational flexibility. As appropriate, these projects will build off those developed to address existing and future deficiencies under Tasks 6.2 and 6.3. Resilience projects identified will be discussed with City staff in a progress meeting, which is budgeted under Task 1. The model and GIS figures will be used to demonstrate the results and recommended improvements to mitigate deficiencies. The figures will be included in the Master Plan Update under Task 8.

TASK 6.5 | CONDITION ASSESSMENT DATA REVIEW

This task will include a review of existing condition assessment and operations/maintenance reports to identify upcoming replacement projects that should be considered within the capital improvement plan. It is assumed that the rehabilitation and replacement of the facilities is based on the latest industry standards and input from City staff. This effort will be spreadsheet-based desktop analysis, relying on pipe material and installation data as well as main break records. BC will coordinate with the City staff to identify projects that will be included in the CIP and summarize subsequent condition assessments that may be required to maintain system reliability. In addition, areas of the system that have had repeat SSO issues will be considered. The information related to the upcoming General Order regulatory requirements (under Task 3.3) will be used as a baseline. Assessments related to source control (or similar) are not included as part of the regulatory considerations.

A more thorough condition assessment, including review of CCTV data and an analysis using Innovzyze's InfoAsset Planner™ software, is detailed in Optional Task 9.5 .

TASK 6.6 | LIST OF PROPOSED IMPROVEMENTS PROJECTS AND FIGURE

BC will summarize the City's existing and future system deficiencies and condition related improvements in a table format, which will be discussed with City staff prior to developing the prioritized CIP (Task 7.2). A consolidated figure that identifies the capacity deficiencies and condition related improvements will be developed for discussion purposes with City staff. A review of the CIP will be discussed with City staff in a progress meeting, which is budgeted under Task 1.

TASK 6.7 | DRAFT SYSTEM IMPROVEMENTS/RECOMMENDATIONS SECTION

BC will consolidate information and analysis performed under Task 6.1 through 6.6 to draft the system improvements/recommendation report sections. The deliverable will be provided under Task 8.

Deliverables for Task 6: Evaluation Criteria Table (electronic copy for discussion with City staff), Existing and Future System Analysis GIS Figures (electronic copies for discussion with City staff), and List of Project Improvements and Figure (electronic copies for discussion with City staff)

TASK 7: SYSTEM MAINTENANCE/REPLACEMENT PROGRAM

TASK 7.1 | UPDATE COST ASSUMPTIONS AND UNIT COSTS

BC will develop planning-level (Class 5 per AACE International) cost estimating assumptions for the wastewater system facilities within the collection system. These unit costs will reflect the most current market conditions in the region (Los Angeles County and City projects). BC will coordinate with City staff on current bid results that may be used to adjust unit costs. BC will estimate cost escalation from sources such as historical cost trends from the ENR Index Los Angeles Area. In addition, a table with typical contingency and mark-up cost factors will be prepared. The cost development and amortization assumptions will be discussed and finalized with the City staff prior to the development of the CIP. This effort may be combined with the parallel work under the *Water and Recycled Water System Master Plan Update* effort for project efficiency.

TASK 7.1 to 7.3 – System Maintenance/Replacement Program: Mark-ups will be consistent with assumptions used in the Water and Recycled Water System Master Plan Update. In addition, the capital improvement plan (CIP) table for the collection system will be integrated into the same Excel file as the water and recycled water list of improvements and will be added as a section (versus a standalone chapter) within the integrated master plan submittal.

TASK 7.2 | DRAFT AND FINAL PRIORITIZED CIP TABLE

BC will develop Class 5 planning-level cost estimates for each of the recommended CIP identified under Task 6.6. The cost estimates will be summarized in tabular format by project ID, facility type, and priority. A GIS map will be prepared to depict the locations of the proposed system improvements with matching project IDs.

A Draft and Final CIP table will group projects into the near-term and long-term planning horizons. The near-term and long-term will be selected through discussions with City staff. Higher priority projects will be included within the near-term and will be distributed on an annual or yearly basis. Long-term projects will be grouped since the timing is unknown.

TASK 7.3 | DRAFT CIP CHAPTER

BC will consolidate information developed as part of Task 6, 7.1, and 7.2 to draft the CIP report chapter. The deliverable will be provided under Task 8 and will include the graphs, tables, and figures developed as part of Task 6 and Task 7.

Deliverables for Task 7: Draft & Final CIP Table (electronic copy and included in Master Plan Report)

TASK 8: SUBMITTALS – MASTER PLAN REPORT

As appropriate, the City may consider coordinating the draft and final Master Plan with the *Water and Recycled Water System Master Plan Update* effort in order to reduce the review effort and number of copies needed. For consistency, BC included the same deliverable milestones and number of copies.

TASK 8.1 | 60% MASTER PLAN

BC will compile the work performed in previous subtasks under Task 2 through Task 6 into master plan report chapters. It is assumed that the 60% Master Plan will include the following: Chapter 1 – Introduction, Chapter 2 – Land Use, Chapter 3 – Flow Projections, and Chapter 4 – Evaluation Criteria. The report will provide clear rationale for the basis of planning tasks that will be used to perform the system analysis. An electronic copy and three (3) hard copies will be submitted to City staff for review and comment. It is assumed that the City will

provide comments within two weeks.

Deliverables for Task 8.1: 60% Master Plan (electronic copy and 3 hard copies)

TASK 8.1 to 8.4 | MASTER PLAN REPORT SUBMITTALS

The hours and ODCs for the development and production of the Draft and Final Master Plan have been reduced with the assumption that the reports will be integrated for the Sewer Master Plan Update and the Water and Recycled Water System Master Plan Update. The deliverables listed under Task 8.3 – Draft Master Plan and Task 8.4 – Final Master Plan were based on the deliverables of the Water and Recycled Water System Master Plan Update.

TASK 8.2 | 85% MASTER PLAN

BC will compile the work performed in previous subtasks under Task 2 through Task 6 into master plan report chapters. It is assumed that the 85% Master Plan will include the following: Chapter 5 – Wastewater System Analysis and Draft CIP Table. The report will provide clear rationale for the system analysis tasks that will be used to develop the prioritized CIP. An electronic copy and three (3) hard copies will be submitted to City staff for review and comment. It is assumed that the City will provide comments within two weeks.

Deliverables for Task 8.2: 85% Master Plan (electronic copy and 3 hard copies)

TASK 8.3 | DRAFT MASTER PLAN

BC will incorporate the comments received from City staff on Task 8.1 and 8.2 and compile the Draft Master Plan Report. It is assumed that the Draft Master Plan will include the following: Draft Executive Summary, revisions to Chapter 1 through Chapter 5, Chapter 6 – Capital Improvement Plan, and supporting appendices. An electronic copy and three (3) hard copies will be submitted to City staff for review and comment. It is assumed that the City will provide comments within two weeks.

Deliverables for Task 8.3: Draft Master Plan (electronic copy and 3 hard copies)

TASK 8.4 | FINAL MASTER PLAN

BC will incorporate the comments received from City staff on Task 8.3. It is assumed that the Final Master Plan will incorporate all final comments received from City staff on the Executive Summary, Chapter 1 through Chapter 6, and supporting appendices. An electronic copy and ten (10) hard copies will be submitted to City staff. This aligns with the organization and deliverables for the *Water and Recycled Water Master Plan Update*.

Deliverables for Task 8.4: Final Master Plan (electronic copy and 10 hard copies)

TASK 9: OPTIONAL TASKS

TASK 9.1 | FLOW MONITORING

BC is coordinating with V&A Engineering (as a subconsultant) to provide flow monitoring services. This effort will include the development of a Flow Monitoring Plan by BC, with input from City staff and V&A. V&A will perform an initial Reconnaissance site visit and will facilitate the installation, calibration, and maintenance of the flow meters, quality review of the collected data, and preparation of a Flow Monitoring and I/I Analysis Report. It is anticipated that the monitoring program will include 10 flow meters for a one-month duration and four rain gauges. Additional sites may be added for an additional fee.

V&A's scope of work includes the following tasks

- **Project Management:** Progress reports, monitoring project activities/budget, manage quality, and submit all required forms to comply with prevailing wage requirements per the Department of Industrial Relations

(DIR):

- Project Preparation and Site Reconnaissance: BC will be responsible for preparing a Draft and Final Flow Monitoring Plan that identify the list of proposed locations (if required by the City of Upland). V&A will review existing sanitary sewer plans and the draft Flow Monitoring Plan (or proposed flow monitoring location details) provided by BC in preparation for flow monitoring. BC will provide V&A with the draft and final list of flow monitoring locations, including pipe diameters, flow direction, and GIS shapefiles. V&A will perform a site reconnaissance to visit the proposed sites to verify the suitability of manholes and/or alternative manholes for the installation of flow meters. V&A's site reconnaissance will be limited to top-side investigations to verify manhole location and accessibility, identify traffic control requirements, and check hydraulics for manholes not located in the street right-of-way. V&A will consult with BC if alternative manholes are required for flow monitoring.

V&A will document the following information: location map with address, pipe size, manhole identification number, flow channel condition, site schematics, and photographs. V&A will recommend the appropriate metering technology for the flow characteristics and hydraulic conditions observed during the site reconnaissance visits. If site reconnaissance identifies conditions, such as manhole depths greater than 30 feet and/or elevated gas levels that cannot be cleared with forced ventilation, V&A will work with BC to identify suitable alternative sites. If monitoring locations cannot be moved, V&A will provide a change order to cover the additional costs due to extreme work conditions

- Install/Calibrate/Remove Flow Meters (10 Sites for 4 weeks): V&A will perform sewer system flow monitoring at 10 locations to collect dry and/or wet-weather flow data for four (4) weeks. V&A will prepare flow monitoring equipment necessary for installing, calibrating, and removing the flow meters. Flow meters will be area-velocity flow meters capable of collecting flow level and velocity measurements in free-flow and surcharged hydraulic conditions. V&A will monitor and download data for this location remotely throughout the study. A two-person V&A crew with a field truck and the necessary confined space entry (CSE), simple traffic control, and flow monitoring equipment will install, calibrate, and remove the flow meters. V&A will verify data integrity and that the meters are operational and clear of debris. V&A shall be responsible for the installation, calibration, and removal of the equipment for this project. Maintenance and meter malfunction will be documented and reported as soon as it is observed. V&A shall be prepared to extend the duration of the flow monitoring period as requested by BC.
- Flow Monitoring and I/I Analysis Study Final Report: Following the flow monitoring activities and after the meters are removed, V&A shall download and reduce the data in 15-minute intervals into Excel spreadsheets for data analysis, data QA/QC, and report preparation. One Draft version and one Final version of the report will be prepared and submitted in electronic format (PDF). The report will include the following information: a. A summary of the flow monitoring equipment used. b. Location maps with address, pipe size, manhole identifier number, flow channel condition, site schematics, and photographs. c. Flow monitoring data with tabular outputs of depth, velocity, and flow rate and hydrographs of depth, velocity, and flow rates for each flow meter. d. I/I Analysis: Average dry weather flows curves will be determined, and rain-dependent infiltration and inflow (RDI/I) response will be isolated during wet weather rainfall events.

Flow Monitoring Addition/Deduction: V&A shall be prepared to extend or retract the duration of the flow monitoring period, or the number of monitoring sites, as required and directed by BC and the City. V&A understands that the data collected from this flow monitoring study will be used for calibration and updates to the sanitary sewer hydraulic model. For budgeting purposes, 10 sites have been included.

- Assumptions from V&A:
 - Traffic Control: V&A assumes only simple traffic control set-ups (truck-mounted light board and

cones) will be required for this project. If complex traffic control set-ups requiring a traffic control contractor are deemed necessary, the costs of the traffic control contractor will be in addition to the stated costs for the flow monitoring.

- Prevailing Wage: V&A understands some or all tasks associated with this project are subject to prevailing wage rate requirements. All project labor subject to prevailing wage requirements will incur a 25% markup on the associated labor fee. This markup covers the higher base hourly labor rates associated with prevailing wage rates, additional overtime requirements, and reporting requirements.
- Encroachment Permits: V&A assumes a City of Upland encroachment permit will be required for the project. Costs to obtain the permit will be billed separately on a Time & Materials (T&M) Not-to-Exceed (NTE) basis.

Deliverables for Task 9.1: Flow Monitoring Plan and Flow Monitoring Report (electronic format)

TASK 9.2 | SEWER SYSTEM MANAGEMENT PLAN

BC will work with City staff to update the City's existing Sewer System Management Plan (SSMP). Updates will consider upcoming changes to the latest General Order and other state and regional requirements, as well as any operational changes implemented by (or planned to be implemented by) the City since the last SSMP was completed. This effort will build on the review of the City's infrastructure (Task 3.1) and the FOG Control and SSO Response Programs, conducted under Task 3.3. The background work performed and chapters developed as part of the Master Plan will serve as the basis for sections of the SSMP. The scope of this task is broken out as follows:

SSMP Review and Audit

BC will review the City's existing SSMP to identify any inaccuracies (due to changes in operation since the previous SSMP was completed) or areas of non-compliance based on the latest State and Regional regulations. Further, the review will identify existing and potential gaps between targeted results and actual progress and recommend possible mitigation measures to close or avoid performance gaps. BC will provide recommendations to the City and will hold a 2-hour workshop with appropriate City staff, including Engineering and Operations staff, to discuss potential changes/revisions to City policies and/or procedures that affect the implementation of the SSMP. As appropriate, the audit will be coordinated with IEUA staff and their SSMP in order to confirm that recommended changes are consistent with regional efforts.

Based on the results of the review and evaluation, BC will prepare an Audit Report. The report will include a summary of the review and evaluation findings for each SSMP component.

SSMP Update

Based on the SSMP evaluation results and the final Audit Report, BC will incorporate the necessary updates to the various components of the SSMP. The revisions will reflect the approved recommendations and to remain in compliance with all State and Regional regulations.

Deliverables for Task 9.2: Draft and Final Sewer System Management Plan Audit Report (electronic format), Draft and Final Sewer System Management Plan Report (electronic format)

TASK 9.3 | STORYMAP

Since hard copies can be challenging to use when cross sharing information, BC proposes the use of an ESRI StoryMap. StoryMaps will allow the City to view CIP projects in an interactive format that can be customized to include project details and assist with integrating project priorities with multiple systems. This web application

provides critical background information, project phasing, costs, and project specifics such as future user cost allocations. The City's StoryMap will allow users to zoom into specific project locations within the service area, which will assist City staff in facilitating discussions with council members or stakeholders. Development of the StoryMap for the Master Plan will be coordinated with the parallel effort for the *Water and Recycled Water System Master Plan Update*.

Deliverables for Task 9.3: StoryMap data files (electronic)

TASK 9.4 | AS-NEEDED SERVICES

To support the City staff with follow up tasks and modeling troubleshooting, up to 100 hours has been included as an optional task. Tasks may also include performing supplemental hydraulic modeling analysis for system optimization alternatives or funding support.

TASK 9.5 | INFOASSET PLANNER CONDITION ASSESSMENT REVIEW

Under this task, BC will work with the City to determine the extent to which a more extensive review of the City's assets is needed and develop a scope to cover the necessary condition assessment (building off Task 6.5). This effort may include review of CCTV inspection data and/or consolidation of the data into a single database in accordance with NASSCO PACP standards. If needed to supplement the database analysis, a sample of pipe-specific PACP reports and/or video will be reviewed and a sub-consultant may be brought on to support any specific inspection and data review activities.

Additionally, it is expected that this task will include coordination with City staff to develop a documented and objective decision process to identify the specific defects requiring maintenance, repair, rehabilitation or replacement along with recommended methods. The objective of this effort will be to develop master planning level estimates (not pipe-specific design recommendations) for sewer system R/R. Through a structured workshop with City staff, the decision process shall be designed to support the City's strategies for when pipes should be repaired, rehabilitated, replaced, or simply scheduled for continued maintenance. The decision process and asset review may be conducted using Innovyze's InfoAsset Planner™ software, with the data will linked to the sewer GIS in order to display the results from the R/R decision queries.

For budgeting purposes, placeholder fee has been included in the submitted fee estimate of \$50,000. The fee estimate will be reassessed during the development of the final scope if this optional task is approved.

EXHIBIT B Schedule of Charges/Payments

DETAILED FEE ESTIMATE - REVISED 2023 Wastewater Collection System Master Plan Update City of Upland																				
Task	Task Description	Puccio, Mike	Liechty, Sham	Martin, Amy	Jaffe, Ian	Ricks, Colin	Fugal, Andrew	Briggs, Mark	Dommer, Catherine	O'Hare, Meagan	Wilcox, Allison	Sicora, Susan	Word Processing	Sario, Emma	Total Labor Hours	Total Labor Effort	Total DDCs	V&A Engineering	Total Effort	
		pic	QA/QC (Master Plan)	Project Manager	Project Engineer	Flow Factor Lead	Hydraulic Modeling Lead	Asset Mgmt & SSMP	Cost Est	Staff Engineer	Staff Engineer	GIS & Graphics	Word Processing	PA				Flow Monitoring		
		\$299.00	\$299.00	\$254.43	\$185.00	\$148.59	\$245.49	\$299.00	\$210.09	\$103.32	\$109.00	\$149.19	\$129.06	\$111.85						
1	Project Administration, Coordination, & Meetings	0	18	60	52	4	4	8	0	20	4	8	0	12	190	39,514	2,000	0	41,514	
1.1	Project Management & Coordination (12 month duration)*	0	0	24	10	2	2	0	0	0	0	0	0	12	50	10,327	0	0	10,327	
1.2	Progress Meetings (7 meetings virtual, 5 combined with W & RW MP)*	0	2	20	30	2	2	0	0	12	4	0	0	0	72	13,701	0	0	13,701	
1.3	City Committee, Council, or Workshops (combined with W & RW MP)*	0	0	16	12	0	0	0	0	8	0	8	0	0	44	8,311	2,000	0	10,311	
1.4	QA/QC*	0	16	0	0	0	0	8	0	0	0	0	0	0	24	7,176	0	0	7,176	
2	Research and Data Acquisition	0	0	2	10	0	2	0	0	10	6	0	0	0	30	4,537	0	0	4,537	
2.1	Data Collection List & Updates (electronic file)*	0	0	0	4	0	0	0	0	2	2	0	0	0	8	1,165	0	0	1,165	
2.2	Data Collection & Review*	0	0	2	6	0	2	0	0	8	4	0	0	0	22	3,372	0	0	3,372	
3	System Analysis	0	0	18	52	0	4	0	0	72	64	0	0	0	210	29,597	0	0	29,597	
3.1	Summarize Existing Collection System	0	0	0	8	0	0	0	0	12	0	0	0	0	20	2,720	0	0	2,720	
3.2	Perform System Resilience Analysis	0	0	2	16	0	4	0	0	32	0	0	0	0	54	7,757	0	0	7,757	
3.3	Review City's FOG Control and SSO Response Program	0	0	8	12	0	0	0	0	4	40	0	0	0	64	9,029	0	0	9,029	
3.4	Draft System Analysis Report Sections	0	0	8	16	0	0	0	0	24	24	0	0	0	72	10,091	0	0	10,091	
4	Existing and Future System Flows	0	0	18	36	68	6	0	0	36	0	0	0	0	164	26,536	0	0	26,536	
4.1	Summarize Historical Flow Data	0	0	2	2	2	2	0	0	16	0	0	0	0	24	3,320	0	0	3,320	
4.2	Update Land Use Projections & Workshop (virtual - combined)*	0	0	8	20	24	4	0	0	20	0	0	0	0	76	12,350	0	0	12,350	
4.3	Evaluate Potential Future Scenario Outcomes	0	0	4	8	12	0	0	0	0	0	0	0	0	24	4,281	0	0	4,281	
4.4	Summarize Projected Wastewater Flows	0	0	2	2	6	0	0	0	0	0	0	0	0	10	1,770	0	0	1,770	
4.5	Draft Existing & Future Flow Report Sections	0	0	2	4	24	0	0	0	0	0	0	0	0	30	4,815	0	0	4,815	
5	Wastewater System Model	0	0	12	148	0	62	0	0	240	0	0	0	0	462	70,450	7,300	0	77,750	
5.1	Develop Hydraulic Model & Review GIS	0	0	2	40	0	8	0	0	60	0	0	0	0	110	16,072	0	0	16,072	
5.2	Draft & Final Calibration Plan	0	0	2	12	0	2	0	0	12	0	0	0	0	28	4,460	0	0	4,460	
5.3	Model Calibration (Dry & Wet Weather) & Workshop (virtual)	0	0	4	64	0	12	0	0	120	0	0	0	0	200	28,202	0	0	28,202	
5.4	Develop Existing & Buildout Scenarios in Model	0	0	2	16	0	4	0	0	24	0	0	0	0	46	6,931	0	0	6,931	
5.5	Draft & Final Modeling TM (electronic copy)	0	0	2	16	0	4	0	0	24	0	0	0	0	46	6,931	0	0	6,931	
5.6	Hydraulic Modeling Software	0	0	0	0	0	8	0	0	0	0	0	0	0	8	1,964	4,800	0	6,764	
5.7	Model Training (2 days)	0	0	0	0	0	24	0	0	0	0	0	0	0	24	5,892	2,500	0	8,392	
6	System Improvements/Recommendations	0	0	20	156	0	18	4	0	152	0	0	0	0	350	55,268	600	0	55,868	
6.1	Establish Evaluation Criteria	0	0	0	8	0	2	0	0	4	0	0	0	0	14	2,384	0	0	2,384	
6.2	Existing Capacity Evaluation of Wastewater System	0	0	4	32	0	4	0	0	40	0	0	0	0	80	12,052	0	0	12,052	
6.3	Future Capacity Evaluation of Wastewater System	0	0	4	24	0	4	0	0	32	0	0	0	0	64	9,746	0	0	9,746	
6.4	Develop System Resilience Projects	0	0	4	12	0	4	0	0	24	0	0	0	0	44	6,699	0	0	6,699	
6.5	Condition Assessment Data Review	0	0	4	60	0	0	4	0	0	0	0	0	0	68	13,314	600	0	13,914	
6.6	List of Proposed Improvement Projects & Figure	0	0	2	8	0	4	0	0	12	0	0	0	0	26	4,211	0	0	4,211	
6.7	Draft System Improvements/Recommendations Sections (with figures)	0	0	2	12	0	0	0	0	40	0	0	0	0	54	6,862	0	0	6,862	
7	System Maintenance/Replacement Program	0	0	20	28	0	0	0	8	48	0	0	0	0	104	16,909	0	0	16,909	
7.1	Update Cost Assumptions & Unit Costs*	0	0	4	0	0	0	0	8	0	0	0	0	0	12	2,698	0	0	2,698	
7.2	Draft & Final Prioritized CIP Table*	0	0	8	12	0	0	0	0	24	0	0	0	0	44	6,735	0	0	6,735	
7.3	Draft CIP Chapter*	0	0	8	16	0	0	0	0	24	0	0	0	0	48	7,475	0	0	7,475	
8	Submittals - Master Plan Report	0	0	12	64	8	0	0	0	104	28	6	24	0	246	33,872	1,900	0	35,772	
8.1	60% Master Plan (3 hard copies and electronic copy)*	0	0	0	8	0	0	0	0	16	0	0	8	0	32	4,166	300	0	4,466	
8.2	85% Master Plan (3 hard copies & electronic copy)*	0	0	0	12	0	0	0	0	24	12	0	0	0	56	7,040	300	0	7,340	
8.3	Draft Master Plan & Executive Summary (3 hard copies & electronic copy)*	0	0	4	24	8	0	0	0	32	8	4	4	0	88	12,955	300	0	13,255	
8.4	Final Master Plan (10 hard copies & electronic copy)*	0	0	8	20	0	0	0	0	32	8	2	4	0	70	9,711	1,000	0	10,711	
9	Optional Tasks	0	4	120	240	0	40	0	0	24	282	32	6	24	748	174,713	21,500	59,000	255,213	
9.1	Flow Monitoring (up to 10 meters & site visit)	0	0	8	40	0	16	0	0	24	0	0	6	0	94	16,617	21,500	59,000	97,117	
9.2	Sewer System Management Plan & Audit	0	0	80	120	0	24	0	0	0	250	0	0	0	474	75,696	0	0	75,696	
9.3	StoryMap	0	0	8	40	0	0	0	0	0	0	32	0	0	80	14,210	0	0	14,210	
9.4	As-Needs Support Services (Modeling, Funding, etc.)	0	4	24	40	0	0	0	0	0	32	0	0	0	100	18,190	0	0	18,190	
9.5	Asset Management (TBD - Up to \$50,000)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	50,000	0	0	50,000	
GRAND TOTAL (WITHOUT OPTIONAL TASKS & INTEGRATED PLAN)		0	18	162	546	80	88	12	8	692	101	14	24	12	1,756	276,684	11,800	0	288,483	
GRAND TOTAL (WITH OPTIONAL TASKS & INTEGRATED PLAN)		0	22	282	766	80	136	12	8	706	384	46	30	12	2,504	451,396	33,300	59,000	543,696	
GRAND TOTAL (ORIGINAL FEE ESTIMATE - WITH OPTIONAL TASKS)		0	32	298	846	108	140	12	14	716	384	46	54	12	2,662	480,091	37,200	59,000	576,291	

EXHIBIT B Schedule of Charges/Payments

DETAILED FEE ESTIMATE - REVISED
2023 Wastewater Collection System Master Plan Update
City of Upland

Task	Task Description	Puccio, Mike	Leech, Sheen	Martin, Amy	Jaffe, Jan	Ricks, Colin	Fugal, Andrew	Briggs, Mark	Dunneer, Catherine	O'Hara, Megan	Wilcox, Allison	Sitona, Susan	Word Processing	Surfo, Emma	Total Labor Hours	Total Labor Effort	Total ODCs	V&A Engineering	Total Effort	
		pic	QA/QC (Master Plan)	Project Manager	Project Engineer	Flow Factor Lead	Hydraulic Modelling Lead	Asset Mgmt & SSMP	Cost Est	Staff Engineer	Staff Engineer	GIS & Graphics	Word Processing	PA						
		\$299.00	\$299.00	\$254.43	\$185.00	\$148.59	\$245.49	\$299.00	\$210.09	\$103.32	\$109.00	\$149.19	\$129.06	\$111.85						
1	Project Administration, Coordination, & Meetings	0	18	60	52	4	4	8	0	20	4	8	0	12	190	39,514	2,000	0	41,514	
1.1	Project Management & Coordination (12 month duration)*	0	0	24	10	2	2	0	0	0	0	0	0	12	50	10,327	0	0	10,327	
1.2	Progress Meetings (7 meetings virtual, 5 combined with W & RW MP)*	0	2	20	30	2	2	0	0	12	4	0	0	0	72	13,701	0	0	13,701	
1.3	City Committee, Council, or Workshops (combined with W & RW MP)*	0	0	16	12	0	0	0	0	8	0	8	0	0	44	8,311	2,000	0	10,311	
1.4	QA/QC*	0	16	0	0	0	0	8	0	0	0	0	0	0	24	7,176	0	0	7,176	
2	Research and Data Acquisition	0	0	2	10	0	2	0	0	10	6	0	0	0	30	4,537	0	0	4,537	
2.1	Data Collection List & Updates (electronic file)*	0	0	0	4	0	0	0	0	2	2	0	0	0	8	1,165	0	0	1,165	
2.2	Data Collection & Review*	0	0	2	6	0	2	0	0	8	4	0	0	0	22	3,372	0	0	3,372	
3	System Analysis	0	0	18	52	0	4	0	0	72	64	0	0	0	210	29,597	0	0	29,597	
3.1	Summarize Existing Collection System	0	0	0	8	0	0	0	0	12	0	0	0	0	20	2,720	0	0	2,720	
3.2	Perform System Resilience Analysis	0	0	2	16	0	4	0	0	32	0	0	0	0	54	7,757	0	0	7,757	
3.3	Review City's FOG Control and SSO Response Program	0	0	8	12	0	0	0	0	4	40	0	0	0	64	9,029	0	0	9,029	
3.4	Draft System Analysis Report Sections	0	0	8	16	0	0	0	0	24	24	0	0	0	72	10,091	0	0	10,091	
4	Existing and Future System Flows	0	0	18	36	68	6	0	0	36	0	0	0	0	164	26,536	0	0	26,536	
4.1	Summarize Historical Flow Data	0	0	2	2	2	2	0	0	16	0	0	0	0	24	3,320	0	0	3,320	
4.2	Update Land Use Projections & Workshop (virtual - combined)*	0	0	8	20	24	4	0	0	20	0	0	0	0	76	12,350	0	0	12,350	
4.3	Evaluate Potential Future Scenario Outcomes	0	0	4	8	12	0	0	0	0	0	0	0	0	24	4,281	0	0	4,281	
4.4	Summarize Projected Wastewater Flows	0	0	2	2	6	0	0	0	0	0	0	0	0	10	1,770	0	0	1,770	
4.5	Draft Existing & Future Flow Report Sections	0	0	2	4	24	0	0	0	0	0	0	0	0	30	4,815	0	0	4,815	
5	Wastewater System Model	0	0	12	148	0	62	0	0	240	0	0	0	0	462	70,450	7,300	0	77,750	
5.1	Develop Hydraulic Model & Review GIS	0	0	2	40	0	8	0	0	60	0	0	0	0	110	16,072	0	0	16,072	
5.2	Draft & Final Calibration Plan	0	0	2	12	0	2	0	0	12	0	0	0	0	28	4,460	0	0	4,460	
5.3	Model Calibration (Dry & Wet Weather) & Workshop (virtual)	0	0	4	64	0	12	0	0	120	0	0	0	0	200	28,202	0	0	28,202	
5.4	Develop Existing & Buildout Scenarios in Model	0	0	2	16	0	4	0	0	24	0	0	0	0	46	6,931	0	0	6,931	
5.5	Draft & Final Modeling TM (electronic copy)	0	0	0	0	0	4	0	0	24	0	0	0	0	46	6,931	0	0	6,931	
5.6	Hydraulic Modelling Software	0	0	0	0	0	8	0	0	0	0	0	0	0	8	1,964	4,800	0	6,764	
5.7	Model Training (2 days)	0	0	0	0	0	24	0	0	0	0	0	0	0	24	5,892	2,500	0	8,392	
6	System Improvements/Recommendations	0	0	20	136	0	18	4	0	152	0	0	0	0	350	55,268	600	0	55,868	
6.1	Establish Evaluation Criteria	0	0	0	8	0	2	0	0	4	0	0	0	0	14	2,384	0	0	2,384	
6.2	Existing Capacity Evaluation of Wastewater System	0	0	4	32	0	4	0	0	40	0	0	0	0	80	12,052	0	0	12,052	
6.3	Future Capacity Evaluation of Wastewater System	0	0	4	24	0	4	0	0	32	0	0	0	0	64	9,746	0	0	9,746	
6.4	Develop System Resilience Projects	0	0	4	12	0	4	0	0	24	0	0	0	0	44	6,699	0	0	6,699	
6.5	Condition Assessment Data Review	0	0	4	60	0	0	4	0	0	0	0	0	0	68	13,314	600	0	13,914	
6.6	List of Proposed Improvement Projects & Figure	0	0	2	8	0	4	0	0	12	0	0	0	0	26	4,211	0	0	4,211	
6.7	Draft System Improvements/Recommendations Sections (with figures)	0	0	2	12	0	0	0	0	40	0	0	0	0	54	6,862	0	0	6,862	
7	System Maintenance/Replacement Program	0	0	20	28	0	0	0	8	48	0	0	0	0	104	16,909	0	0	16,909	
7.1	Update Cost Assumptions & Unit Costs*	0	0	4	0	0	0	0	8	0	0	0	0	0	12	2,698	0	0	2,698	
7.2	Draft & Final Prioritized CIP Table*	0	0	8	12	0	0	0	0	24	0	0	0	0	44	6,735	0	0	6,735	
7.3	Draft CIP Chapter*	0	0	8	16	0	0	0	0	24	0	0	0	0	48	7,475	0	0	7,475	
8	Submittals - Master Plan Report	0	0	12	64	8	0	0	0	104	28	6	24	0	246	33,872	1,900	0	35,772	
8.1	60% Master Plan (3 hard copies and electronic copy)*	0	0	0	8	0	0	0	0	16	0	0	8	0	32	4,166	300	0	4,466	
8.2	85% Master Plan (3 hard copies & electronic copy)*	0	0	0	12	0	0	0	0	24	12	0	8	0	56	7,040	300	0	7,340	
8.3	Draft Master Plan & Executive Summary (3 hard copies & electronic copy)*	0	0	8	24	8	0	0	0	32	8	4	4	0	88	12,955	300	0	13,255	
8.4	Final Master Plan (10 hard copies & electronic copy)*	0	0	4	20	0	0	0	0	32	8	2	4	0	70	9,711	1,000	0	10,711	
9	Optional Tasks	0	4	120	240	0	40	0	0	24	282	32	6	0	748	174,713	21,500	59,000	255,213	
9.1	Flow Monitoring (up to 10 meters & site visit)	0	0	8	40	0	16	0	0	24	0	0	6	0	94	16,617	21,500	59,000	97,117	
9.2	Sewer System Management Plan & Audit	0	0	80	120	0	24	0	0	0	250	0	0	0	474	75,696	0	0	75,696	
9.3	StoryMap	0	0	8	40	0	0	0	0	0	0	32	0	0	80	14,210	0	0	14,210	
9.4	As-Needs Support Services (Modeling, Funding, etc.)	0	4	24	40	0	0	0	0	0	32	0	0	0	100	18,190	0	0	18,190	
9.5	Asset Management (TBD - Up to \$50,000)	0	0	0	0	0	0	0	0	0	0	0	0	0	-	50,000	0	0	50,000	
GRAND TOTAL (WITHOUT OPTIONAL TASKS & INTEGRATED PLAN)		0	18	162	546	80	88	12	8	682	102	14	24	12	1,256	276,683	11,800	0	288,483	
GRAND TOTAL (WITH OPTIONAL TASKS & INTEGRATED PLAN)		0	22	282	786	80	136	12	8	706	384	46	30	12	2,504	451,396	31,300	59,000	543,696	
GRAND TOTAL (ORIGINAL FEE ESTIMATE - WITH OPTIONAL TASKS)		0	32	298	846	108	140	12	14	716	384	46	54	12	2,662	480,091	37,200	59,000	576,291	