AMENDMENT NO. 2

CITY OF CHICO - PROFESSIONAL SERVICES AGREEMENT

AGREEMENT DATED OCTOBER 20, 2022

BETWEEN CITY OF CHICO

AND

CAROLLO ENGINEERS, INC.
Architect/Consultant/Engineer

SANITARY SEWER MASTER PLAN
Project Title

MAJNC/50490-000-4140
Budget Account Number

THIS PROFESSIONAL SERVICES AGREEMENT AMENDMENT (Amendment) is entered into on March 18, 2024, between the City of Chico, a municipal corporation under the laws of the State of California (City), and Carollo Engineers, Inc., (Consultant). On October 20, 2022, City and Consultant entered into City of Chico - Professional Services Agreement" (Agreement). The provisions of the Agreement are hereby amended as follows:

1. Exhibit B pages B1-R1 through B13-R1 is hereby superseded and replaced by revised Pages B1-R2 through B13-R2 attached hereto.

2. Exhibit C pages C-1 through C-3 is hereby superseded and replaced by revised Pages C1-R2 through C4-R2 attached hereto.

3. All other provisions of the Agreement shall remain in full force and effect.

CITY:

Mark Sorensen
Mark Sorensen (Mar 18, 2024 09:06 PDT)

Mark Sorensen, City Manager*

*Authorized pursuant to Section 3.08.060 of the Chico Municipal Code

CONSULTANT:

By: Timothy Loper
Timothy Loper (Mar 15, 2024 10:44 PDT)

Tim Loper PE

Title Vice President

APPROVED AS TO FORM:

John W. Lam
John W. Lam (Mar 11, 2024 17:54 PDT)

John Lam, City Attorney*

APPROVED AS TO CONTENT:

Brendan Ottoboni (Mar 11, 2024 17:55 PDT)

Brendan Ottoboni, Public Works Director, Engineering

*Pursuant to The Charter of the City of Chico, Section 906(D)

REVIEWED AS TO CONTENT:

Barbara Martin (Mar 17, 2024 22:23 PDT)

Barbara Martin, Administrative Services Director*

*Reviewed by Finance and Information Systems

AMENDMENT NO. 2

CITY OF CHICO - PROFESSIONAL SERVICES AGREEMENT

CAROLLO ENGINEERS, INC.
Architect/Consultant/Engineer

SANITARY SEWER MASTER PLAN
Project Title

MAJNC/50490-000-4140
Budget Account Number

AMENDED
EXHIBIT B

SCOPE OF PROFESSIONAL SERVICES - BASIC; COMPLETION SCHEDULE

Amendment No. 2 Services in Bold:

Scope of Professional Services - Basic

The Consultant shall provide professional services as follows:

TASK 1. PROJECT MANAGEMENT

Consultant's project manager shall direct and coordinate the efforts of the project team members to deliver all of the components of the City of Chico's Sanitary Sewer Master Plan (SSMP) project.

Task 1a. Biweekly Meetings
Consultant shall conduct biweekly progress meetings to summarize project status, share information, and gain concurrences on key project issues. Consultant shall prepare meeting agendas and meeting notes to document discussions, decisions, and work progress. Progress meetings shall include discussion of project progress, schedule, budget, action item list, and decision log.

Task 1b. Monthly Meetings
Consultant shall conduct monthly progress meetings for management and stakeholders. These meetings shall generally be virtual. The purpose of the meetings shall be to share project progress and progress towards deliverables and discuss key decisions.

Task 1c. In-Person/Major Meetings
It is anticipated that five (5) major in-person meetings shall be required for this project.

1. Kickoff Meeting – Consultant shall conduct a kickoff meeting with City staff. The

purpose of the kickoff meeting shall be to confirm project objectives, review staff and team members, discuss scope and schedule, and review the data collection matrix.

2. Review of Project Prioritization – Consultant shall conduct a workshop to review project prioritization as it relates to the condition assessment and risk classification. The objective of the workshop shall be to discuss and formalize the decision matrix related to project prioritization and formalize the decision process.

3. Review of Developed Projects – Consultant shall meet with the internal stakeholders to review projects that have been developed for eventual inclusion into the Capital Improvement Project (CIP). The intent of this meeting shall be to gain consensus on project details to make sure projects are viable, feasible and aligned with plan objectives, such as vulnerability, infill, planned development, and other criteria.

4. Draft SSMP Report Review – Public Meeting – Consultant shall conduct a workshop with internal and external stakeholders, including the public, to communicate the findings of the report and receive stakeholder feedback of the draft SSMP.

5. City Council Public Meeting – Plan Adoption – Consultant shall work with City staff to deliver a presentation to the City Council on the findings of the report. Consultant shall address questions and any concerns in the meeting and incorporate decisions discussed into the final document, as appropriate.

Task 1d. Project Schedule

Consultant shall develop an updateable Smartsheet schedule that highlights major tasks, milestones, deliverables, and City review periods, along with major meetings and workshops.

Deliverables:

- *All Meetings. Agenda, presentation, minutes, action items, consensus achieved, collection of comments received during the meetings, and responses for all comments received.*
- *In-Person/Major Meetings. Agenda, presentation, minutes, action items, consensus achieved, collection of comments received during the meetings, and responses for all comments received.*
- *Project Schedule. Schedule including identification of critical path and key decision points. Schedule shall be in Smartsheet format as provided by the City.*

TASK 2. PUBLIC OUTREACH

The overarching goal of this task shall be to include the public and stakeholders in SSMP development to foster ownership in successful adoption of the SSMP by City Council.

Task 2a. Public Outreach Plan

Consultant team shall be responsible for generating a public outreach plan consisting of schedule, messaging strategies, identification of key stakeholder groups, key decisions that require consensus among stakeholders, critical items for public comment, and an overall strategy for the SSMP to be reviewed and adopted by City Council.

The purpose of the Public Outreach Plan shall be to provide guidelines to be considered and

implemented to make ensure the City conveys timely, accurate, and clear information to all stakeholders throughout the master planning process. This plan shall include strategies and tactics to inform internal and external stakeholders, understand the purpose and need of the SSMP, have the opportunity to provide comment where it can inform the planning process, and ultimately, to help make sure the SSMP is adopted by City Council. The Plan shall include content such as key messages, stakeholder identification, schedule, critical decision points in the process that require stakeholder feedback and methods to obtain feedback, and other relevant content.

Task 2b. Public Outreach Content

Consultant team shall develop a range of tailored, SSMP-specific materials that shall provide general information about the master planning effort, as well as opportunities for stakeholder and public input. To address the technical nature of the SSMP, Consultant shall design and deliver engaging, public-friendly materials that shall be appropriate for the range of stakeholders involved and make sure public and stakeholder input is appropriate and useful. Consultant team shall develop materials suitable for interchangeable formats and channels. Including social media, newsletter articles, event handouts, and website updates.

Task 2c. Public Meeting and Community Engagement

As part of the Public Outreach Plan development and to encourage productive public engagement and outreach, Consultant team shall develop an overall engagement strategy that includes an approach to public meeting format and logistics. This outreach effort shall be planned to foster the public's understanding of the City's vision for wastewater collection.

Deliverables:

- *Public Outreach Plan. The Public Outreach Plan shall consist, at minimum, of the following:*
    - *Schedule.*
    - *Messaging strategies.*
    - *Identification of key stakeholder groups.*
    - *Critical decisions that require consensus among stakeholders.*
    - *Critical items for public review and comment.*
    - *Overall strategy for the SSMP to be reviewed and adopted by City Council.*

- *Public Outreach Content. Content as described in the Public Outreach Plan, including but not limited to website content, infographics, and any other material identified in the Public Outreach Plan.*

TASK 3. REVIEW AND ASSESS EXISTING INFORMATION

A review and assessment of existing information shall allow for the determination of a condition assessment, including vulnerability, criticality, and associated risk scores.

Task 3a. Review of Reports and Documentation

Consultant shall develop a data collection matrix that lists the required data and supporting documentation required to complete the SSMP. Consultant shall review the data collection matrix at the Kickoff meeting. In addition to any other available data necessary to develop the SSMP, Consultant shall review the following:

- Current City of Chico standards, regulatory requirements, amendments, and provisions.
- City of Chico Municipal Code.
- City of Chico Capital Improvement Plan.
- Chico Sewer System Management Plan.
- Chico Sanitary Sewer Overflow Response Plan.
- City of Chico Sanitary Sewer Master Plan Update, June 2013 (Carollo).
- WPCP Strategic Planning Report FINAL, February 2021 (Carollo).
- 2022 WPCP Facility Planning Update Report DRAFT January 2022 (Carollo), including planning for the Paradise Sewer Project.
- City of Chico General Plan 2030.

All assumptions used in this plan shall be consistent with the City of Chico General Plan 2030.

Task 3b. Review of Existing GIS Database

Consultant shall review the existing asset inventory at the appropriate level of detail for risk analysis, capital rehabilitation, and replacement planning. Consultant shall summarize missing data, such as diameter, length, inverts, and rim elevations.

Consultant shall review all available City records, including as-builts and sewer camera recordings, to fill in critical missing data. Consultant shall identify areas of the system targeted for field survey. Consultant shall identify locations for supplemental field surveys to fill in critical missing data.

Task 3c. Field Verification of Critical Assets

Consultant shall provide a list of viable and qualified personnel/subcontractors that are able to perform field verification at a predetermined hourly/daily cost. The City shall determine which, if any, critical assets will be field verified.

Task 3d. Environmental Documentation

Consultant's team shall develop the appropriate environmental documentation to target an Initial Study/(Mitigated) Negative Declaration. The Consultant's team shall consider the City's anticipated level of environmental review, considering factors such as consistency with the City of Chico 2030 General Plan and associated Environmental Impact Report, and provide feedback as to the adequacy of this environmental determination. In coordination with the City, Consultant's team shall prepare an administrative draft of the CEQA documentation at the appropriate level necessary to analyze the potential for systematic and project-level improvement impacts.

Deliverables:

- *GIS Data and Gap Analysis. The GIS data compiled for this document shall be delivered in ESRI ArcGIS File Geodatabase with sewer nodes and sewer lines entered in a geometric network. The data shall be projected in NAD_1983_StatePlane_California_II_FIPS_0402_Feet-WKID: 2226 Authority: EPSG.*

    - *Identification of critical missing GIS data.*
    - *List, by priority, of field survey locations where additional GIS data is needed.*
    - *Updated and improved GIS database.*

- *Environmental Documentation*
    - *Administrative Draft of Initial Study/Proposed (Mitigated) Negative Declaration, Notice of Intent (NOI), and Notice of Determination (NOD) documents for the project.*
    - *Allow for and incorporate one round of City comments into documents, as needed. (Note: the City shall coordinate the publishing of the NOI and file the NOD with the Butte County Clerk Recorders' Office and State Clearinghouse, including payment of associated fees.)*

TASK 4. FLOW MONITORING PROGRAM

Consultant shall contract with V&A Consulting Engineers (subconsultant) to conduct a temporary flow monitoring program. The flow monitoring program shall include 18 sites for a period of 10 weeks.

Task 4a. Develop Flow Monitoring Site Recommendations
The Consultant team shall work closely with City operations staff to develop a list of recommended monitoring sites. The site recommendations shall be based on past metering efforts, Consultant system knowledge, operations staff recommendations, and subconsultant site reconnaissance.

Task 4b. Flow Monitoring Installation and Data Collection
Subconsultant shall install, calibrate, and monitor the 18 flow metering sites over the course of the 10-week period. Subconsultant shall make weekly checks on data accuracy and make measurement adjustments as necessary.

Deliverables:

- *Flow Monitoring Report consisting of:*
    - *Executive Summary.*
    - *Introduction and background.*
    - *Methods and procedures.*
    - *Sites and presentation of data.*
    - *Summary of flow monitoring data that shall be included in public outreach efforts, such as graphs, diagrams, infographics, etc.*

TASK 5. FLOW MODELING – COLLECTION SYSTEM HYDRAULIC MODELING

Task 5a. Projections of Flow for Planning Horizon
Consultant shall coordinate closely with City Planning and other department staff to develop flow projections for the 20-year planning horizon. Consultant shall use population projections, combined with land use identified in the General Plan, to develop flow projections throughout the City. Consultant shall use information from flow monitoring to develop peaking factors and validate flow projections. Consultant shall also consider assumptions related to construction of accessory dwelling units (ADUs) and distribution of ADUs in the collection system. Consultant shall coordinate with City staff on the historical trends of ADU permit applications to predict future ADU construction rates.

Consultant shall also summarize, and document flows attributed to planned new developments and allocate the flows in the updated hydraulic model. Projects required to serve the planned new developments shall be used in the development of the 10-Year CIP for specific new development projects that may or may not occur within the planning horizon.

Task 5b. Hydraulic Modeling Update

Consultant shall update the hydraulic model pipeline network to include projects that have been completed since the 2013 Master Plan was finalized. The model update shall also include updating the baseline wastewater flows and the wet weather flow factors. The design storm shall be reviewed and updated based on NOAA Atlas 14 isopluvial maps for specific areas within the City of Chico.

Task 5c. Hydraulic Modeling Calibration and Validation

The flow monitoring data for average flows and wet weather flows shall be used to calibrate the hydraulic model to both dry and wet weather flow conditions. The model shall be calibrated to flow, velocities, and levels at each of the flow monitoring locations.

Task 5d. Hydraulic Analysis

The model shall be used to evaluate the hydraulic capacity of the collection system. The evaluation shall include determination of the following:

- Capacity deficiencies.
- Critical pipeline segments.
- Identification of new pipe segments that could improve overall system flow dynamics.
- Identification of new pipe segments and projects that could reduce the number of lift stations.

Consultant shall provide analysis and results for three flow projections: low, medium, and high relative to population and development projects described in City and County planning documents. Medium population projection shall be based on projections used in the City of Chico General Plan 2030.

Consultant shall incorporate results from flow monitoring to calibrate and validate flow model results.

Task 5e. Draft and Final Technical Memorandum (TM): Flow Projections

Consultant shall develop a Draft and Final TM summarizing the methods and findings from Task 5b through 5d.

Deliverables:

- *Draft and Final TM: Flow Projections*
    - *Identification of population projections, land use projections, and associated flow projections, including supporting documentation.*
    - *List of planned new development projects, their associated flow projections, and impacts to the existing system.*
- *Draft and Final TM: Flow Modeling Evaluation*
    - *Software options, limitations, and recommendations.*
    - *Model calibration and validation using flow monitoring data.*
    - *Maps and figures.*

    - *Identification of capacity deficiencies.*
    - *Identification of critical pipeline segments.*
    - *New pipe segments that could improve the overall system flow dynamics.*
    - *New pipe segments and projects that could reduce the number of lift stations.*
- *Updated Hydraulic Model Consultant shall provide the City a copy of the updated hydraulic model upon completion of the SSMP.*

TASK 6 COLLECTION SYSTEM CONDITION ASSESSMENT

Task 6a. Conduct Collection System Condition Assessment
Consultant shall utilize findings from the desktop assessment to develop estimates of remaining useful life for pipeline assets. These estimates shall serve as initial parameters for determining the optimal replacement timing and shall be used to calculate a vulnerability score for each asset.

Task 6b. Establish Vulnerability Scores
Consultant shall utilize findings from the desktop assessment to develop estimates of remaining useful life for pipeline assets. These estimates shall serve as initial parameters for determining the optimal replacement timing and shall be used to calculate a vulnerability score for each asset.

Task 6c. Establish Criticality Scores
Utilizing results from flow monitoring, flow modeling, and City input, Consultant shall establish criticality, or consequence of asset failure, scores for the assets in terms of:

- Impact of failure to the environment.
- Impact to customers (number and type of connections).
- Impact to health and safety (hospitals, schools, etc.)
- Ability to return the asset to service.
- Estimated repair costs.

Pipeline segments shall be scored based on the above identified criteria, with the weighted summation equating to the Criticality Score for each segment of pipeline identified.

Task 6d. Calculate Risk Scores for Project Prioritization
Consultant shall combine the criticality scores with the vulnerability scores to calculate risk scores. Assets shall be sorted by risk to verify that known areas of concern are appropriately ranked. These scores shall be used to schedule capital replacement projects within the overall planning effort included in the 10-Year CIP.

Task 6e. Draft and Final TMs: Conditions Assessment and Project Prioritization
Consultant shall develop draft and final TMs for the condition assessment tasks, and the project prioritizations.

Deliverables:

- *Draft and Final TM: Collection System Condition Assessment. This TM shall include a complete review and assessment of the collection system and shall identify:*
    - *Length and location of pipe beyond life expectancy.*
    - *Predicted failure modes and locations.*
    - *Genres of pipe within the City that are more or less likely subject to catastrophic*

failure.

- *Draft and Final TM: Project Prioritization*
    - *Present the process for how projects are prioritized based on condition, vulnerability, and criticality.*
    - *Present design criteria, including flow projections and recommendations that shall be used to further develop projects.*

TASK 7. LIFT STATION ASSESSMENT

Consultant shall inspect the seven lift stations evaluated as part of the 2013 Master Plan for condition, vulnerability, and criticality. From condition, vulnerability, and criticality data, Consultant shall provide a risk score for each lift station and recommend a course of action, by priority, for reliable, sustainable, and cost-effective operation. This shall include a plan to remove identified lift stations from service, if possible. The 2013 Master Plan developed pipeline improvements to allow four of the seven lift stations to be abandoned.

Consultant shall inspect 11 additional lift stations for condition, vulnerability, and criticality. From condition, vulnerability, and criticality provide a risk score for each lift station and recommend a course of action, by priority, to ensure reliable, sustainable, and cost-effective operation.

Task 7a. Pre-Assessment Workshop

Consultant shall conduct a workshop with operations staff to review critical information required for the field inspection of the City's lift stations. Consultant shall review as-built drawings, existing known condition issues, and any other valuable information required for the efficient inspection.

Consultant shall conduct a workshop with operations staff to review critical information required for the field inspection of the City's additional 11 lift stations. Consultant shall review as-built drawings, existing known condition issues, and any other valuable information required for the efficient inspection.

Task 7b. Lift Station Assessment

Consultant shall conduct a field inspection of the seven lift stations. Consultant shall utilize a team of selected engineers to review the stations, including experts in mechanical, structural, and electrical engineering.

Consultant shall conduct a field inspection of the 11 lift stations. Consultant shall utilize a team of selected engineers to review the stations. Including experts in mechanical, structural, and electrical engineers.

Task 7c. Draft and Final TM: Lift Station Assessment

Consultant shall develop draft and final TMs that summarize the work associated with Task 7.

Consultant shall update the draft TM03 Lift Station Assessment (January 2024) to include the additional 11 lift stations (18 total) and the final TM03 that summarizes the work associated with Task 7.

Deliverables:

- *Draft and Final TM: Lift Station Assessment*
    - *Risk scores for all lift stations.*
    - *Recommended course of action for reliable, sustainable, cost-effective operation.*
    - *Recommended course of action to remove identified lift stations from service, if possible.*
- ***Risks scores for all lift stations***
- ***Recommended course of action for reliable, sustainable, cost-effective operation***
- ***Recommended course of action to remove identified lift stations from service if possible***

TASK 8. DEVELOP AND RANK PROJECTS

This task shall be the basis for the 10-Year CIP. Projects are intended to be developed to a level adequate for ranking and alternatives analysis.

Task 8a. Vulnerability Driven Projects
Consultant shall develop vulnerability driven projects based on the collection system assessment, vulnerability scores, and timing needed to mitigate major impacts of failure.

Task 8b. Criticality Driven Projects
Consultant shall develop projects to reduce the criticality of any one pipeline and to make the whole system more resilient. Criticality driven project development is expected to be iterative as criticality comprises several factors.

This shall include projects identified as capacity deficient related to infill population increases and not planned new development projects. It shall also include projects necessary to minimize risk to critical customers, such as hospitals, schools, and emergency services centers (police, fire, etc.).

Task 8c. Planned New Development Driven Projects
Using the City of Chico General Plan 2030, Consultant shall develop a list of projects required to accommodate specific planned new development projects. The projects shall be capacity and condition driven and shall consider criticality to make sure new pipelines do not post a long-term risk to the wastewater collection system in terms of oversizing and stranded assets.

Consultant shall research planned new development projects currently underway and provide a list of projects by priority. Projects under environmental review are considered planned new development; projects that have completed environmental review and have specific mitigation measures are considered part of the existing system.

Task 8d. Infill Projects
Consultant shall develop flows and sewer requirements to serve unsewered areas within the City limits. Consultant shall review potential infill sanitary sewer projects and identify a list of projects, by priority, to construct when funds become available. Infill projects are defined as projects that serve fully developed parcels that are currently on septic systems within City boundaries. Consultant shall coordinate with Butte County Environmental Health to obtain septic system information, determine method for ranking, and utilize information to assess priority. The intent of this task shall be to make sure funds that are collected for sewer main installation are

installed in locations that have the maximum benefit to the entire City.

Task 8e. Develop Repair, Rehabilitation, or Replacement Alternatives
Consultant shall evaluate options for repair, rehabilitation, and/or replacement of facilities found to be in poor condition (and/or needing repair) during the condition assessment.

Task 8f. Prepare Planning Level Cost Estimates
Consultant shall prepare planning level (±30%-60%) project cost estimates for the identified vulnerability driven, criticality driven, infill driven, and planned new development driven projects.

Task 8g. Identify Non-Sewer Projects for Cost-Effective Nexus
Consultant shall review other City, County, and regional projects and identify opportunities for optimizing scope, schedule, and budget.

Task 8h. Project Development and Ranking
Consultant shall generate four separate project lists based on priority and schedule:

1. Vulnerability Driven Projects.
2. Criticality Driven Projects.
3. Planned New Development Driven Projects.
4. Infill Projects.

The results from these four lists shall be the basis for further development of identified projects and eventual incorporation into the 10-Year CIP.

Task 8i. Draft and Final TM: Project Development, Ranking and Costs
Consultant shall develop a draft and final TM summarizing the work associated with the development of capital project recommendations and the cost estimates.

Deliverables:

- *Draft and Final TM – Project Development, Ranking, and Delivery Method.*
    - *Research, assumptions, and process used to develop and rank projects.*
    - *Four (4) separate lists of improvement projects identified by priority:*
        - *Vulnerability Driven Projects.*
        - *Criticality Driven Projects.*
        - *Planned New Development Driven Projects.*
        - *Infill Projects.*
    - *Projects shall include location, map, description, and cost estimate.*
    - *Identification of nexus between non-sewer projects and proposed projects, as well as the potential benefits achieved if scheduled properly.*
    - *Presentation of findings on project delivery methods (bidding, construction, and project management).*
    - *Identification of which projects could be optimized and recommendation of select projects.*

TASK 9. CAPITAL IMPROVEMENT PLAN

Task 9a. Prepare Preliminary Design Level (±10%-30%) Cost Estimates
Consultant shall prepare preliminary design level (±10%-30%) capital, operations, and maintenance cost estimates for the alternatives identified in Project Development and Ranking. Present work analysis shall be used to compare costs for the viable alternatives.

The number of projects to be analyzed for preliminary design level (±10%-30%) cost estimates shall depend on the total dollar value of planning level project estimates. The City's 10-year budget is limited by forecasted revenues; therefore, top priority projects shall be brought forward for further analysis, but not beyond the City's ability to complete the projects during the 10-year planning horizon. The intent shall be to build a 10-Year CIP that generates a reliable, sustainable, and cost-effective sanitary sewer system.

Task 9b. CIP – Existing Collection System
Utilizing the information obtained from other tasks, City input, stakeholder input, and public comment, Consultant shall generate a 10-Year CIP – Existing Collection System that identifies the following:

- Location, including maps and diagrams.
- Replacement type, traditional or alternative method.
- Schedule, both duration and when in the CIP.
- Estimated cost.
- Environmental documentation required.

This task shall be a combination of infill projects and replacement projects.

Task 9c. CIP – Planned New Development
Utilizing the information obtained from other tasks, City input, stakeholder input, and public comment, Consultant shall generate a 10-Year CIP – Planned New Development that identifies the following:

- Location, including maps and diagrams.
- Replacement type, traditional or alternative method.
- Schedule, both duration and when in the CIP.
- Estimated cost.
- Environmental documentation required.

This task shall consist of a separate 10-Year CIP based on Planned New Development in Chico. The intent is to have a separate program that can be implemented based on location, phasing, and status of planned new development.

Projects that are identified as having a nexus between vulnerability, criticality, infill, and planned new development shall be included in the CIP and highlighted as to their multiple benefits, which includes benefit to existing customers as well as new customers.

Task 9d. 10-Year CIP
The SSMP shall develop a recommended 10-Year CIP based on the preferred alternatives. The final document shall include a recommendation of a phase approach to sanitary sewer

improvements throughout the planning period and shall identify potential key decision points and response strategies to address changes in assumptions made during the formulation of the program.

All projects shall be prioritized and tabulated, with costs, into a comprehensive implementation plan. Planning level layout figures illustrating the project location, description, and phasing of projects shall be included.

Task 9e. Draft and Final TM: CIP Development and Costs
Consultant shall develop a draft and final TM summarizing the development of the 10-Year CIP and the assumptions and methods use to develop the cost estimates.

Deliverables:

- *Draft and Final TM: CIP Development and Costs*
    - *Provide documentation on the analysis used for estimating the cost of projects.*
    - *Outline the methodology, process, and results of the CIP development, including:*
        - *CIP – Existing Collection System, including Infill Projects.*
        - *CIP – Planned New Development.*
        - *Capital Improvement Program.*
    - *Identify improvements necessary to support new development in specific parts of the City and a process for identifying triggers for when projects should be pursued.*
    - *Clearly identify assumptions used in the analysis.*

TASK 10. STAFFING PLAN

Task 10a. Develop Staffing Plan
Consultant shall review the City's current engineering staffing structure and develop a recommendation for a staffing plan necessary to accomplish the projects described in the 10-Year CIP. The staffing plan shall include an analysis of alternatives, including hiring additional City staff, supplementing with consulting agencies, and any other staffing models the consultant identifies as appropriate to accomplish the 10-Year CIP.

Deliverables:

- *Draft and Final TM: Staffing Plan*
    - *Assessment of City's current engineering staffing model and its opportunities and limitations.*
    - *Recommendation for staffing model to accomplish the projects identified in the 10-Year CIP.*

TASK 11. SANITARY SEWER MASTER PLAN REPORT

The SSMP shall combine the results of assessments, analysis, and recommendations, as well as content derived from Final TMs.

Task 11a. Draft Master Plan Report
Consultant shall develop the Draft SSMP that combines all findings into a final document with, at minimum, the following sections:

- Cover Letter
- Executive Summary
- Background
- Study Area Description
- Scope of Work and Methodology
- Flow Monitoring Program
- Flow Modeling – Collection System Hydraulic Modeling
- Capacity Evaluation
- Planning Criteria and Flow Projections
- Proposed Projects and Alternatives Analysis
- Capital Improvement Program
- Staffing Plan

Consultant shall prepare the Draft SSMP for stakeholder review with the following minimum timelines:

- City review – 4 weeks.
- Public review – 4 weeks (Public meeting shall occur at the beginning of this duration).

Task 11b. Final Master Plan Report

Consultant shall incorporate stakeholder and City comments on the Draft Master Plan Report. Consultant shall deliver report findings and receive and incorporate stakeholder comments.

Deliverables:

- *Draft SSMP (Electronic)*
- *FINAL SSMP:*
    - *Six (6) hard copies, bound.*
    - *Two (2) digital versions (PDF); one combined file and one file with individual sections, chapters, and appendices.*

Completion Schedule

The Consultant shall complete all services outlined herein in compliance by ~~November 30, 2023~~ ~~June 30, 2024~~ **September 30, 2024**.

CITY OF CHICO - PROFESSIONAL SERVICES AGREEMENT

CAROLLO ENGINEERS, INC.
Architect/Consultant/Engineer

SANITARY SEWER MASTER PLAN
Project Title

MAJNC/50490-000-4140
Budget Account Number

EXHIBIT C

COMPENSATION

Compensation for the services shall be in accordance with the following schedule of hourly rates attached as page C-2. Total maximum compensation for the services outlined herein shall not exceed ~~$799,400.00~~ **$845,400.00**.

Compensation shall be based upon actual invoices received.

Task Description	Hours by Classification												Labor	Subs and Other Direct Expenses[1]	Estimated Fee
	Principal-in-Charge	Quality Assurance/ Quality Control	Project Manager	Project Engineer	Condition Assessement	Cost Estimating	Staffing Plan	Modeling Lead	Modeling Support	GIS	Word Processing	Total Hours			
	Beverly Hann	Richard Humpherys	Tim Loper	Ryan Orgill	Felicia James	Ryan Hook	Dan Baker	Danielle Orgill	Max Mozer	Jackie Silber	DP Staff				
	$303	$303	$303	$258	$258	$258	$303	$213	$185	$142	$120				
Task 1 – Project Management	23	0	68	42	6	2	6	30	26	14	24	241	$ 58,300	$ 6,100	$ 64,400
Task 1a – Biweekly Meetings	2	0	20	6	0	0	0	0	0	0	2	30	$ 8,500	$ 400	$ 8,900
Task 1b – Monthly Meetings	4	0	20	6	2	2	2	6	2	2	2	48	$ 12,600	$ 600	$ 13,200
Task 1c – In-Person/Major Meetings	16	0	24	24	4	0	4	24	24	12	16	148	$ 33,700	$ 4,900	$ 38,600
Task 1d – Project Schedule	1	0	4	6	0	0	0	0	0	0	4	15	$ 3,500	$ 200	$ 3,700
Task 2 – Public Outreach	4	2	24	18	6	0	0	4	2	8	4	72	$ 18,100	$ 69,100	$ 87,200
Task 2a – Public Outreach Plan	1	0	4	6	0	0	0	0	0	2	0	13	$ 3,300	$ 12,000	$ 15,300
Task 2b – Public Outreach Content	1	0	4	4	2	0	0	2	0	2	2	17	$ 4,000	$ 28,400	$ 32,400
Task 2c – Public Meeting and Community Engagement	2	2	16	8	4	0	0	2	2	4	2	42	$ 10,800	$ 28,700	$ 39,500
Task 3 – Review and Assessment of Existing Information	3	0	16	30	10	2	0	48	28	36	14	187	$ 38,900	$ 62,400	$ 101,300
Task 3a – Review of Reports and Existing Information	2	0	8	12	8	2	0	16	8	8	2	66	$ 15,000	$ 900	$ 15,900
Task 3b – Review of Existing GIS Database	0	0	2	8	2	0	0	8	12	16	4	52	$ 9,900	$ 700	$ 10,600
Task 3c – Field Verification of Critical Assets	0	0	2	6	0	0	0	16	8	4	4	40	$ 8,100	$ 500	$ 8,600
Task 3d – Environmental Documentation	1	0	4	4	0	0	0	8	0	8	4	29	$ 5,900	$ 60,300	$ 66,200
Task 4 – Flow Monitoring	0	4	8	16	0	0	0	20	14	8	6	76	$ 16,500	$ 140,800	$ 157,300
Task 4a – Develop Flow Monitoring Site Recommendations	0	2	2	4	0	0	0	4	2	4	2	20	$ 4,300	$ 300	$ 4,600
Task 4b – Flow Monitoring Installation and Data Collection	0	0	2	4	0	0	0	8	8	4	2	28	$ 5,600	$ 140,100	$ 145,700
Task 4c – Flow Monitoring Report	0	2	4	8	0	0	0	8	4	0	2	28	$ 6,600	$ 400	$ 7,000
Task 5 – Flow Modeling	5	12	28	52	0	0	0	120	152	48	16	433	$ 89,400	$ 5,500	$ 94,900
Task 5a – Projections of Flow for Planning Horizon	2	2	4	8	0	0	0	16	20	16	2	70	$ 14,100	$ 900	$ 15,000
Task 5b – Hydraulic Model Update	0	2	4	8	0	0	0	24	32	16	2	88	$ 17,400	$ 1,100	$ 18,500
Task 5c – Model Calibration and Validation	0	2	4	8	0	0	0	24	36	4	2	80	$ 16,500	$ 1,000	$ 17,500
Task 5d – Hydraulic Ananlysis	0	2	8	12	0	0	0	24	28	4	2	80	$ 17,200	$ 1,000	$ 18,200
Task 5e – Draft and Final TM: Flow Projections	2	2	4	8	0	0	0	16	16	4	4	56	$ 11,900	$ 700	$ 12,600
Task 5f – Draft and Final TM: Flow Modeling Evaluation	1	2	4	8	0	0	0	16	20	4	4	59	$ 12,300	$ 800	$ 13,100
Task 6 – Collection System Condition Assessment	4	10	16	22	72	0	0	54	70	56	12	316	$ 67,200	$ 4,100	$ 71,300
Task 6a – Conduct Collection System Condition Assessment	0	2	4	6	16	0	0	24	30	16	2	100	$ 20,700	$ 1,300	$ 22,000
Task 6b – Establish Vulnerability Scores	0	2	2	4	12	0	0	8	8	8	2	46	$ 9,900	$ 600	$ 10,500
Task 6c – Establish Criticality Scores	0	2	2	4	12	0	0	8	8	16	2	54	$ 11,000	$ 700	$ 11,700
Task 6d – Calculate Risk Scores for Project Prioritization	2	2	4	4	16	0	0	6	8	8	2	52	$ 11,700	$ 700	$ 12,400
Task 6e – Draft and Final TM: Collection System Condition Assessment and Project Prioritization	2	2	4	4	16	0	0	8	16	8	4	64	$ 13,900	$ 800	$ 14,700

Task Description	Hours by Classification												Labor	Subs and Other Direct Expenses[1]	Estimated Fee
	Principal-in-Charge	Quality Assurance/ Quality Control	Project Manager	Project Engineer	Condition Assessement	Cost Estimating	Staffing Plan	Modeling Lead	Modeling Support	GIS	Word Processing	Total Hours			
	Beverly Hann	Richard Humpherys	Tim Loper	Ryan Orgill	Felicia James	Ryan Hook	Dan Baker	Danielle Orgill	Max Mozer	Jackie Silber	DP Staff				
	$303	$303	$303	$258	$258	$258	$303	$213	$185	$142	$120				
Task 7 – Lift Station Assessement	4	2	16	8	44	0	20	0	8	10	10	122	$ 30,200	$ 1,600	$ 31,800
Task 7a – Pre-Assessment Workshop	2	0	4	4	4	0	4	0	0	4	4	26	$ 6,100	$ 300	$ 6,400
Task 7b – Lift Station Assessment	0	0	8	0	24	0	16	0	0	2	2	52	$ 14,000	$ 700	$ 14,700
Task 7c – Draft and Final TM: Lift Station Assessment	2	2	4	4	16	0	0	0	8	4	4	44	$ 10,100	$ 600	$ 10,700
Task 8 – Develop and Rank Projects	6	8	24	62	60	16	0	64	24	44	10	318	$ 72,600	$ 4,100	$ 76,700
Task 8a – Vulnerability Driven Projects	0	0	2	4	4	0	0	8	2	2	0	22	$ 5,000	$ 300	$ 5,300
Task 8b – Criticality Driven Projects	0	0	2	4	4	0	0	8	2	2	0	22	$ 5,000	$ 300	$ 5,300
Task 8c – Planned New Development Driven Projects	0	0	2	4	4	0	0	8	0	0	0	18	$ 4,400	$ 200	$ 4,600
Task 8d – Infill Projects	0	0	2	4	4	0	0	8	0	0	0	18	$ 4,400	$ 200	$ 4,600
Task 8e – Develop Repair, Rehabilitation, or Replacement Alternatives	0	0	2	8	8	0	0	12	0	0	0	30	$ 7,300	$ 400	$ 7,700
Task 8f – Prepare Planning Level Cost Estimates	0	0	2	6	8	16	0	4	8	16	2	62	$ 13,200	$ 800	$ 14,000
Task 8g – Identify Non-Sewer Projects for Cost Effective Nexus	2	0	2	8	12	0	0	0	0	0	2	26	$ 6,600	$ 300	$ 6,900
Task 8h – Project Development and Ranking	2	4	6	16	8	0	0	4	4	8	2	54	$ 12,800	$ 700	$ 13,500
Task 8i – Draft and Final TM: Project Development, Ranking, and Delivery	2	4	4	8	8	0	0	12	8	16	4	66	$ 13,900	$ 900	$ 14,800
Task 9 – Capital Improvement Program	8	10	12	24	14	32	0	68	32	40	14	254	$ 54,900	$ 3,300	$ 58,200
Task 9a – Prepare Preliminary Design Level Cost Estimates	0	2	2	4	0	24	0	16	8	8	2	66	$ 14,700	$ 900	$ 15,600
Task 9b – Capital Improvement Program – Existing System	2	2	2	4	4	4	0	12	8	8	2	48	$ 10,300	$ 600	$ 10,900
Task 9c – Capital Improvement Program – Planned New Development	2	2	2	4	4	4	0	16	8	8	2	52	$ 11,200	$ 700	$ 11,900
Task 9d – 10-Year Capital Improvement Program	2	2	2	4	4	0	0	0	0	8	4	26	$ 5,500	$ 300	$ 5,800
Task 9e – Draft and Final TM: CIP Development and Costs	2	2	4	8	2	0	0	24	8	8	4	62	$ 13,200	$ 800	$ 14,000
Task 10 – Staffing Plan	2	0	4	2	0	0	24	0	0	0	4	36	$ 10,100	$ 500	$ 10,600
Task 10a – Develop Staffing Plan	2	0	4	2	0	0	24	0	0	0	4	36	$ 10,100	$ 500	$ 10,600
Task 11 – Sanitary Sewer Master Plan Report	6	6	16	24	8	12	6	24	48	16	20	186	$ 40,300	$ 5,400	$ 45,700
Task 11a – Draft Master Plan Report	4	4	8	12	4	8	2	16	24	8	12	102	$ 22,100	$ 2,300	$ 24,400
Task 11b – Final Master Plan Report	2	2	8	12	4	4	4	8	24	8	8	84	$ 18,200	$ 3,100	$ 21,300
Total Hours and Fee	65	54	232	300	220	64	56	432	404	280	134	2,241	$ 496,500	$ 302,900	$ 799,400

Notes:

(1) Other direct expenses include mileage traveling to/from meetings at IRS Federal Rate, reproduction at cost plus 5%, and Project Equipment and Communication Expense billed at $13.00 per hour.

(2) Subconsultant costs include 10% markup

(3) Rates are based on 2022 billing rates

C3-R2

FEE ESTIMATE

SANITARY SEWER MASTER PLAN UPDATE

City of Chico

Engineers...Working Wonders With Water™

C4-R2

Task Description	Hours by Classification																							
	Principal-in-Charge	Quality Assurance/ Quality Control	Project Manager	Project Engineer	Condition Assessement	Condition Assessement	Condition Assessment - Structural	Condition Assessment - Mechanical	Condition Assessment - EIC		Cost Estimating	Staffing Plan	Modeling Lead	Modeling Support	GIS	Word Processing	Total Hours	Raw Labor		Labor	Subs and Other Direct Expenses[1]	Estimated Fee
	Beverly Hann	Richard Humpherys	Tim Loper	Ryan Orgill	Felicia James	Michelle Eckard	Nicole Kwan	Bryan Burnitt	Daniel Robinson	Charles Ramey	Ryan Hook	Dan Baker	Danielle Orgill	Brett O'Hair	Kevin C.	DP Staff						
Task 7 – Lift Station Assessement	0	2	6	0	2	28	52	20	20	16	0	4	0	0	8	16	174			$ 43,200	$ 2,800	$ 46,000
Task 7a – Pre-Assessment Workshop	0	0	2	0	0	4	4	0	0	0	0	4	0	0	0	4	18	$ 700	$ 1,900	$ 4,400	$ 200	$ 4,600
Task 7b – Lift Station Assessment	0	0	2	0	0	8	24	16	16	8	0	0	0	0	0	0	74	$ 200	$ 600	$ 19,900	$ 1,500	$ 21,400
Task 7c – Draft and Final TM: Lift Station Assessment	0	2	2	0	2	16	24	4	4	8	0	0	0	0	8	12	82	$ 1,100	$ 3,000	$ 18,900	$ 1,100	$ 20,000