

CITY OF CHICO - PROFESSIONAL SERVICES AGREEMENT

DUDEK
Consultant

URBAN FOREST MASTER PLAN & CANOPY COVERAGE ANALYSIS

Project Title

100-686-5330/99276-000-4800

Budget Account Number

TABLE OF CONTENTS

<u>Section/Title</u>	<u>Page No.</u>
SECTION 1 - DESCRIPTION OF PROJECT	2
SECTION 2 - SCOPE OF PROFESSIONAL SERVICES - BASIC; COMPLETION SCHEDULE	2
SECTION 3 - SCOPE OF PROFESSIONAL SERVICES - ADDITIONAL; COMPLETION SCHEDULE	2
SECTION 4 - COMPENSATION.....	3
SECTION 5 - RESPONSIBILITY OF CONSULTANT	3
SECTION 6 - RESPONSIBILITY OF CITY.....	3
SECTION 7 - INDEMNIFICATION	4
SECTION 8 - INSURANCE	5
SECTION 9 - GENERAL PROVISIONS	5
9.1 - Access to Records	5
9.2 - Assignment.....	5
9.3 - Changes to Scope of Services - Basic Professional Services	5
9.4 - Compliance with Laws, Rules, Regulations.....	5
9.5 - Conflict of Interest Code Applicability	5

9.6 - Exhibits Incorporated	6
9.7 - Independent Contractor	6
9.8 - Integration; Amendment.....	6
9.9 - Jurisdiction	6
9.10 - Notice to Proceed; Progress; Completion	6
9.11 - Ownership of Documents.....	6
9.12 - Subcontracts	6
9.13 - Term; Termination	7
9.14 - Notice	7
SECTION 10 - SPECIAL PROVISIONS	7

May 28, 2021, between the City of Chico, a municipal corporation under the laws of the State of California, (City) and DUDEK, a California corporation, (Consultant).

SECTION 1 - DESCRIPTION OF PROJECT

City desires to undertake that certain project (Project) described in EXHIBIT A, entitled "DESCRIPTION OF PROJECT," and to engage Consultant to provide the required professional services relating to the Project.

SECTION 2 - SCOPE OF PROFESSIONAL SERVICES - BASIC; COMPLETION SCHEDULE

Consultant shall perform those basic professional services in connection with the Project as are set forth more particularly in EXHIBIT B, entitled "SCOPE OF PROFESSIONAL SERVICES - BASIC; COMPLETION SCHEDULE," and shall complete said professional services in accordance with the completion schedule for professional services as incorporated in EXHIBIT B.

SECTION 3 - SCOPE OF PROFESSIONAL SERVICES - ADDITIONAL; COMPLETION SCHEDULE

City and Consultant agree that it may be necessary, in connection with the Project, for Consultant to perform or secure the performance of professional services other than those set forth in EXHIBIT B. In each such instance, Consultant shall advise City, in advance and in writing, of the need for such additional professional services, their cost and the estimated time, if appropriate, required to perform them. Consultant shall not proceed to perform any such required additional professional service until City has determined that such professional service is beyond the scope of the basic professional service to be provided, is required, and has given its written

authorization to perform or obtain it. Each additional professional service so authorized shall constitute an amendment to this Agreement, shall be identified and sequentially numbered as "Amendment No. 1" and so forth, shall be subject to all of the provisions of this Agreement, and shall be incorporated into EXHIBIT B accordingly.

SECTION 4 - COMPENSATION

Consultant shall be compensated for professional services rendered to City pursuant to this Agreement periodically in the amounts, manner and in accordance with the payment schedule as set forth in EXHIBIT C, entitled "COMPENSATION." Amounts due to Consultant from City for professional service rendered shall be evidenced by the submission to City by Consultant of an invoice, prepared in a form satisfactory to City, setting forth the amount of compensation due for the period covered by it. Each such invoice shall be forwarded to City so as to reach it on or before the 15th day of the month next following the month or months, or other applicable period, for which the professional service invoiced were provided. All such invoices shall be in full accord with any and all applicable provisions of this Agreement. City will make payment on each such invoice within 30 days of receipt of it. However, if Consultant submits an invoice which is incorrect, incomplete, or not in accord with the provisions of this Agreement, then City shall not be obligated to process any payment to Consultant until a correct and complying invoice has been submitted.

SECTION 5 - RESPONSIBILITY OF CONSULTANT

By executing this Agreement, Consultant warrants to City that Consultant possesses, or will arrange to secure from others, all of the necessary professional capabilities, experience, resources and facilities necessary to provide to City the professional services under this Agreement. In procuring the professional services of others to assist Consultant in performing the professional services set forth at EXHIBIT B or additional professional services under SECTION 3 of this Agreement, Consultant shall not employ or otherwise obtain the professional services of any person or entity known to Consultant or City to have, or be likely to develop during the term of this Agreement, an interest that is personally, or professionally, or financially adverse to any interest of City. Consultant will follow the current, generally accepted professional practices in performing tests and procedures, making findings, rendering opinions, preparing factual presentations and providing professional advice and recommendations regarding professional services rendered under this Agreement.

SECTION 6 - RESPONSIBILITY OF CITY

To the extent appropriate to the Project contemplated by this Agreement, City shall:

6.1 Assist Consultant by placing at Consultant's disposal all available information pertinent to the Project, including previous reports and any other data relative to design and construction of the Project.

6.2 Guarantee access to and make all provisions for Consultant to enter upon public and private property as required for Consultant to perform Consultant's professional services.

6.3 Examine all studies, reports, sketches, drawings, specifications, proposals, and other documents prepared and presented by Consultant, and render verbally or in writing as may be appropriate, decisions pertaining thereto within a reasonable time so as not to delay the progress

of the services by Consultant.

6.4 Designate in writing a person to act as City's representative with respect to the services to be performed under this Agreement. Such person shall have complete authority to transmit instructions, receive information, interpret and define City's policies and decisions with respect to materials, equipment, elements and systems pertinent to Consultant's professional services.

6.5 Give prompt written notice to Consultant whenever City observes or otherwise becomes aware of any defect in the Project.

6.6 Furnish approvals and permits from all governmental authorities having jurisdiction over the Project and such approvals and consents from others as may be necessary for completion of the Project.

SECTION 7 - INDEMNIFICATION

To the fullest extent permitted by law, Consultant shall defend (with counsel of City's choosing), indemnify and hold 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, related to, or incident to any alleged acts, errors or omissions, or willful misconduct of Consultant, its officials, officers, employees, subcontractors, consultants or agents in connection with the services provided under this Agreement, including without limitation the payment of all consequential damages, expert witness fees and attorneys' fees and other related costs and expenses. Consultant shall reimburse City and its officials, officers, employees, agents, and/or volunteers, for any and all legal expenses and costs incurred by each of them in connection therewith or in enforcing the indemnity herein provided.

Consultant's responsibility for such defense and indemnity obligations shall survive the termination or completion of this Agreement for the full period of time allowed by law. The defense and indemnification obligations of this Agreement are undertaken in addition to, and shall not in any way be limited by, the insurance obligations contained in this Agreement. Consultant's obligation to indemnify shall not be restricted to insurance proceeds, if any, received by City, its directors, officials, officers, employees, agents, or volunteers. Consultant's obligation to indemnify, defend and hold harmless the City, its officers, employees and agents for claims involving "Professional Liability" claims involving acts, errors or omissions in the rendering of professional services (as defined in Civil Code section 2782.8(2), specifically, architects (Business & Professions Code section 5500), landscape architects (Business & Professions Code section 5615), professional engineers (Business & Professions Code section 6701), and professional land surveyors (Business & Professions Code section 8701)), shall be limited to the extent caused by Consultant's negligent acts, errors or omissions.

SECTION 8 - INSURANCE

Any requirements by City that Consultant carry general liability, errors and omissions, or any other type of insurance in connection with the services to be performed and/or professional services to be rendered by Consultant pursuant to this Agreement shall be as set forth in EXHIBIT D, entitled "INSURANCE PROVISIONS."

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SECTION 9 - GENERAL PROVISIONS

9.1 Access to Records

Consultant shall maintain all books, records, documents, accounting ledgers, and similar materials relating to services performed for City under this Agreement on file for at least four years following the date of final payment to Consultant by City. Any duly authorized representative(s) of City shall have access to such records for the purpose of inspection, audit and copying at reasonable times, during Consultant's usual and customary business hours. Consultant shall provide proper facilities to City's representative(s) for access and inspection. Consultant shall be entitled to reasonable compensation for time and expenses related to such access and inspection activities, which shall be considered to be an additional professional service to City, falling under the provisions of SECTION 3 of this Agreement.

9.2 Assignment

This Agreement is binding on the heirs, successors, and assigns of the parties hereto and shall not be assigned by either City or Consultant without the prior written consent of the other.

9.3 Changes to Scope of Services - Basic Professional Services

City may at any time, upon a minimum of 10 days written notice, modify the scope of basic professional services to be provided under this Agreement. Consultant shall, upon receipt of said notice, determine the impact on both time and compensation of such change in scope and notify City in writing. Upon agreement between City and Consultant as to the extent of said impacts to time and compensation, an amendment to this Agreement shall be prepared describing such changes. Execution of the amendment by City and Consultant shall constitute the Consultant's notice to proceed with the changed scope.

9.4 Compliance with Laws, Rules, Regulations

All professional services performed by Consultant pursuant to this Agreement shall be performed in accordance and full compliance with all applicable Federal, State, or City statutes, and any rules or regulations promulgated thereunder.

9.5 Conflict of Interest Code Applicability

If City's City Manager has determined that one or several of Consultant's Principal(s) or Project Manager(s) are subject to the provisions of Section 2R.04.180 of the Chico Municipal Code (the City's Conflict of Interest Code), then each such person will be required to comply with the provisions of said Code in connection with the professional services they render to the City under this Agreement. In such event, City's requirements are set forth in EXHIBIT E, entitled "CONFLICT OF INTEREST PROVISIONS," to this Agreement.

9.6 Exhibits Incorporated

All Exhibits attached to and referred to in this Agreement are hereby incorporated by this reference.

9.7 Independent Contractor

City and Consultant agree that the relationship between them created by this Agreement is that of an employer-independent contractor. Consultant shall be solely responsible for the conduct and control of the services performed under this Agreement. Consultant shall be free to

render professional consulting services to others during the term of this Agreement, so long as such activities do not interfere with or diminish Consultant's ability to fulfill the obligations established herein to City.

9.8 Integration; Amendment

This Agreement represents the entire understanding of City and Consultant as to those matters contained herein. No prior oral or written understanding shall be of any force or effect with respect to those matters covered in it. This Agreement may not be modified or altered except by amendment in writing signed by both parties.

9.9 Jurisdiction

This Agreement shall be administered and interpreted under the laws of the State of California. Jurisdiction of litigation arising from this Agreement shall be in that state. If any part of this Agreement is found to be in conflict with applicable laws, such part shall be inoperative, null, and void insofar as it is in conflict with said laws, but the remainder of the Agreement shall continue to be in full force and effect.

9.10 Notice to Proceed; Progress; Completion

Upon execution of this Agreement by the parties, City shall give Consultant written notice to proceed with the services. Such notice may authorize Consultant to render all of the professional services contemplated herein, or such portions or phases as may be mutually agreed upon. In the latter event, City shall, in its sole discretion, issue subsequent notices from time to time regarding further portions or phases of the services. Upon receipt of such notices, Consultant shall diligently proceed with the services authorized and complete it within the agreed time period.

9.11 Ownership of Documents

Title to all documents, designs, drawings, specifications, and the like with respect to services performed under this Agreement shall vest with City at such time as City has compensated Consultant, as provided herein, for the professional services rendered by Consultant in connection with which they were prepared.

9.12 Subcontracts

Consultant shall be entitled, to the extent determined appropriate by Consultant, to subcontract any portion of the services to be performed under this Agreement. Consultant shall be responsible to City for the actions of persons and firms performing subcontract services. The subcontracting of services by Consultant shall not relieve Consultant, in any manner, of the obligations and requirements imposed upon Consultant by this Agreement.

9.13 Term; Termination

The term of this Agreement shall commence upon City's issuance to Consultant of a notice to proceed for all or a portion of the services, as hereinabove provided, and shall end upon City's acceptance and payment for all or such portion of the services as was authorized by such notice, including any and all retentions. Notwithstanding the foregoing, City may, in its sole discretion, terminate this Agreement at any time and for any reason whatsoever by giving at least 10 days prior written notice of such termination to Consultant. In this latter event, Consultant

shall be entitled to compensation for all professional service rendered and services performed for City to the date of such termination.

9.14 Notice

Any notices required to be given pursuant to this Agreement shall be deemed to have been given by their deposit, postage prepaid, in the United States Postal Service or, alternatively, by personal delivery or overnight courier service addressed to the parties as follows:

To City:	City Manager City of Chico P. O. Box 3420 Chico, CA 95927-3420	or	City Manager City of Chico 411 Main Street Chico, CA 95928
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To Consultant: Dudek
605 3rd Street
Encinitas, CA 92024

SECTION 10 - SPECIAL PROVISIONS

This Agreement shall include all special provisions, if any, as are set forth on EXHIBIT F, entitled "SPECIAL PROVISIONS."

IN WITNESS WHEREOF, the parties hereto have executed this Agreement the date first set forth above.

CITY:



Mark Orme, City Manager*

CONSULTANT:



Joe Monaco, President & CEO

*Authorized pursuant to Section 3.08.060
of the Chico Municipal Code

APPROVED AS TO FORM:



Vincent C. Ewing, City Attorney*

APPROVED AS TO CONTENT:



Erik Gustafson, Public Works Director -
Operations & Maintenance

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

REVIEWED AS TO CONTENT:



Scott Dowell, Administrative Services Director*

*Reviewed by Finance and Information Systems

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URBAN FOREST MASTER PLAN & CANOPY COVERAGE ANALYSIS

Project Title

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Budget Account Number

EXHIBIT A

DESCRIPTION OF PROJECT

Consultant shall develop a long-term citywide Urban Forest Master Plan (UFMP) that will serve as a roadmap for elected officials, staff, residents and other stakeholders. It will establish the value of the City's urban forest and will set a baseline from which future progress will be measured. It will identify community concerns and opinions, outline key challenges as well as potential conflicts facing the urban forest. It will establish goals, policies and programs to guide Public Works to realize the vision of the City's urban forest in both short and long-term time horizons. It will provide a series of action points to maintain the health of the forest, increase canopy, ensure funding sources, promote best practices, minimize conflicts and increase climate resiliency.

Consultant shall also perform a Canopy Coverage Analysis (CCA) that includes public trees (including open space and natural resource areas) and private trees. The CCA will assess and compare the current canopy coverage of Chico's urban forest and show the change in canopy coverage over the last 20 years. The City of Chico is approximately 33.4 square miles in size and is located in central Butte County. The City has a population of 94,529 (2019) and owns and maintains 34,579 inventoried trees predominantly located in parks, landscapes, streetscapes and facilities. Other trees that have not been inventoried are located in 6,400+ acres of open space (Riparian, Blue oak-pine woodland, and oak savannah), nearly 90 miles of bike trails, and a municipal golf course. (See Attachment 1 – Maps).

This project is funded by a grant from the California Department of Forestry & Fire Protection as part of the California Climate Investment Program, Urban & Community Forestry Program and the USDA Forest Service Urban & Community Forestry Program. (See Attachment 2 – Grant Application).

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EXHIBIT B

SCOPE OF PROFESSIONAL SERVICES - BASIC; COMPLETION SCHEDULE

SCOPE OF PROFESSIONAL SERVICES - URBAN FOREST MASTER PLAN

OVERVIEW

The Urban Forest Master Plan (UFMP) will be a written procedure manual and policy document that shall be used by all City Departments. The UFMP is a long-term master plan and will primarily focus on public trees with an emphasis on City Street Trees and public facilities but will also consider the golf course and open space areas. UFMP will also make recommendations regarding increasing and maintaining canopy coverage for trees on public and private property within the City limits and future annexations. The long-term plan will focus on urban forest management goals and objectives for the next 40 years. The long-term goals need to be broken down into attainable 3-5 year milestones for the first twenty years.

The UFMP shall include sections on work programs, policies, ordinances, sustainable urban forest management, design, planting, staffing, stewardship, carbon offset, storm water management, creek, open space and natural resource management, public tree inventory, and community participation and education.

The Consultant shall review the City's ordinances, policies, programs, and best management and design practices that relate to trees within Chico. The plan shall dove-tail and be placed in context with other City plans such as The General Plan, Bidwell Park Master Management Plan, Storm Water Plan, Climate Change Action Plan and others. The Consultant shall make recommendations and develop a streamlined process and a binding procedure manual that can be used by all City departments and other stakeholders.

The UFMP shall incorporate models of urban forest sustainability and climate resiliency. The Consultant shall identify Key Performance Indicator metrics (KPIs) that can be used to measure and communicate progress of the UFMP.

See Attachment 3 for details on how the Consultant will accomplish these tasks.

MEETINGS & OUTREACH

The Consultant must assess and meet with all involved City departments that affect or may be affected by trees and that relate to tree maintenance, preservation, management and design. Public outreach meetings with key stakeholders shall be set up by the Consultant and may be planned and organized in partnership with local non-profit groups. Input from citizens and non-profit organizations regarding future urban forest management, best management practices and concerns shall be incorporated into the plan.

The City anticipates six (6) to eight (8) meetings with City staff and four (4) to six (6) public meetings in addition to one presentation of the final draft to Bidwell Park and Playground Commission (BPPC). The number of meetings may increase if the City determines it is necessary.

The Consultant shall develop in partnership with local non-profit groups novel and authentic methods of outreach and engagement using protocols developed by, but not restricted to, the International Association for Public Participation (IAPP).

The Consultant shall provide key information about Chico's urban forest and its sustainable management to be put on the City of Chico's website. Consultant shall also host continuous and easily accessible outreach opportunities through the internet.

See Attachment 4 for further information on:

- Monthly Meetings
- City Staff Interviews
- Community Engagement
- The Working Group
- Urban Forestry Summit
- Community Outreach Materials
- Online Outreach Opportunities

CANOPY COVERAGE ANALYSIS

The Canopy Coverage Analysis shall include public trees (including open space and natural resource areas) and private trees. The Analysis must assess and compare the current canopy coverage of Chico's urban forest and show the change in canopy coverage over the last 20 years. A citywide tree inventory (31,400 trees and 4,000 vacant planting sites), not including trees on private property and open space areas, was completed in 2009 and an i-Tree Streets analysis was conducted in 2011. A revised street tree inventory was completed in 2021 (34,579 trees including a partial inventory of park trees and 9,539 vacant planting sites).

Analysis of these urban tree canopy assessments shall be used to develop an achievable canopy goal. A sustainable action plan with methods and processes to meet this goal shall be developed for the next 20 years. General goals and guidelines, that will be refined in the future, shall be developed for the planting time series from 21 to 40 years.

A citywide Master Tree List with sub lists for parks, streetscapes, bio-retention areas, parking

lots, trees in natural areas, golf courses, medians, planted under utilities, and privately-owned trees shall be created by the Consultant. Furthermore, the Consultant shall recommend which new tree species and cultivars should be introduced to Chico's urban forest to increase diversity and climate change resiliency. Consultant shall create a process to identify over time which species will thrive and are suitable for this area.

The Consultant shall also recommend which species need to be removed from the list, either due to failure to thrive or due to a current over-representation in the tree palette. The Master List shall be easy to understand for all stakeholders. It shall also categorize trees according to water use and classify as native, near native or ornamental, as well as other useful parameters. The Consultant shall provide professional services to achieve the overall goal of the project, which is to advance urban forestry management in the City of Chico by facilitating a proactive approach to tree maintenance and to improve the community's (residents, elected officials and staff) access to and knowledge of the condition, value, needs and benefits of the City's urban forest.

See Attachment 5 for details on how the Consultant will accomplish these tasks.

TREE BROCHURE (OPTIONAL)

If requested by the City, the Consultant shall create a City of Chico Tree Species Selection brochure that follows guidelines developed during the UFMP development. Three hundred (300) printed copies of the brochure and a downloadable PDF shall be included.

Total cost for the brochures, if this item is requested by the City, shall not exceed \$9,500.

SERVICES TO BE PROVIDED BY CITY

The City shall provide the following:

1. Available tree inventory data.
2. Document transfer of relevant policies, plans, and ordinances related to trees.
3. Support in identifying Working Group members.
4. Scheduling assistance to identify timing of the Urban Forestry Summits.

COMPLETION SCHEDULE

1. Work on this project shall begin within fourteen (14) calendar days of the contract award.
2. The first UFMP draft shall be completed within one-hundred and fifty (150) calendar days from the day of the commencement of work.
3. The second UFMP draft with all revisions shall be completed within sixty (60) calendar days of the first draft.

4. The third and final UFMP draft with all revisions shall be completed by March 1, 2022.
5. Contract ends March 13, 2022. There shall be no contract extension past this date.

For more details on these milestones and a proposed project schedule table, see Attachment 6.

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EXHIBIT C

COMPENSATION

Compensation for services shall be based upon monthly invoices received and shall be paid in accordance with the completion of tasks outlined below:

TASKS	2021								2022		
	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC	IAN	FEB	MARCH
1. MEETINGS											
a. Kickoff Meeting											
b. Monthly Meetings											
c. City Staff Interviews											
2. COMMUNITY ENGAGEMENT											
a. Working Group											
b. Urban Forestry Summit											
c. Outreach Materials											
d. Internet Outreach											
3. CANOPY COVERAGE ANALYSIS											
a. Application of CCA											
b. Tree Equity Score Analysis											
4. DIVERSE & RESILIENT TREE INVENTORY											
a. Citywide Tree Planting Analysis											
b. Street Tree Master Plan Planting Map											
5. CURRENT STATUS OF THE URBAN FOREST											
a. Urban Forest Composition Analysis											
b. Comprehensive City Review											
c. Strategic Plan											
d. Implementation & Monitoring Plan											
e. Community Assessment & Goal Setting Analysis											
6. FINAL DOCUMENT & CITY COUNCIL APPROVAL											
a. Urban Forest Master Plan (UFMP) Outline											
b. Preparation/Submittal, First Draft of UFMP											
c. Preparation/Submittal, Second Draft of UFMP											
d. Preparation/Submittal, Final Draft (3/1/2022)											
e. Presentation to BPPC											
f. Presentation to City Council											

The month of completion shown in the Table above is subject to change, with prior approval from the City.

Total maximum compensation for the Urban Forest Master Plan and Canopy Coverage Analysis shall not exceed \$138,683.

Total maximum compensation for the City of Chico Tree Species Selection Brochure shall not exceed \$9,500.

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EXHIBIT D

INSURANCE PROVISIONS

General Liability Insurance

Consultant/Contractor shall obtain commercial general liability insurance (occurrence policy form) from one or more U.S. domiciled insurance companies licensed to do business in the State of California with an A.M. Best Company rating of "B" or better or, in the alternative, an unlicensed U.S. domiciled company or companies with an "A" rating, which provides coverage for bodily injury, personal injury and property damage liability in the amount of at least \$1,000,000 per occurrence, and \$2,000,000 in the aggregate, with a maximum policy deductible of \$5,000, or as approved by the City's Human Resources and Risk Management Office.

It shall be a requirement under this agreement that any available insurance proceeds broader than or in excess of the specific minimum Insurance coverage requirements and/or limits shall be available to the Additional Insured. Furthermore, the requirements for coverage and limits shall be (1) the minimum coverage and limits specified in this Agreement; or (2) the broader coverage and maximum limits of coverage of any Insurance policy or proceeds available to the named Insured, whichever is greater.

The insurance coverage required herein shall be evidenced by a certificate of insurance with policy endorsements and shall be executed by an authorized official of the insurer(s). In addition to the limits of coverage described above, the certificate of insurance shall provide that the insurer shall provide to City at least 30 days prior notice of cancellation or material change in coverage, or 10 days prior notice of cancellation for non-payment.

Consultant/Contractor acknowledges and agrees that City of Chico, its officers, boards and commissions, and members thereof, its employees and agents, are covered as additional insureds with respect to any liability arising out of the activities of Consultant/Contractor as the named insured. Such additional insured status shall be evidenced by a policy endorsement executed by an authorized official of the insurer(s). A blanket endorsement which provides additional insured status to any person or organization with whom Consultant/Contractor, as named insured, has entered into a written contract, such as this Agreement, shall satisfy this requirement.

The insurance coverage required herein shall be primary and non-contributory insurance with respect to the City of Chico, its officers, officials and employees. Any insurance or self-insurance maintained by the City of Chico, its officers, officials or employees shall be in excess of the insurance afforded to the named insured by the insurance coverage required herein and shall not contribute to any loss. Such primary insurance status shall be evidenced by a policy endorsement issued by an authorized official of the insurer(s) and shall be at least as broad as CG 20 01 04 13. In the alternative, a letter issued by an authorized official of the insurer(s) and copies of the pertinent page(s) of the policy shall satisfy this requirement.

The limits of Insurance required in this agreement may be satisfied by a combination of primary and umbrella or excess Insurance. Any umbrella or excess Insurance shall contain or be endorsed to contain a provision that such coverage shall also apply on a primary and non-contributory basis for the benefit of City of Chico (if agreed to in a written contract or agreement) before City of Chico's self-insurance shall be called upon to protect it as a named insured.

All self-insured retentions (SIR) must be disclosed to the City's Human Resources and Risk Management Office for approval and shall not reduce the limits of liability. Policies containing any (SIR) provision shall provide or be endorsed to provide that the SIR may be satisfied by either the named Insured or City of Chico. City of Chico reserves the right to obtain a full certified copy of any Insurance policy or endorsements. Failure to exercise this right shall not constitute a waiver of right to exercise later.

Automobile Liability Insurance

Consultant/Contractor shall obtain automobile liability insurance from one or more U.S. domiciled insurance companies licensed to do business in the State of California with an A.M. Best Company rating of "B" or better which provides coverage for bodily injury, personal injury, and property damage liability in the amount of at least \$500,000 combined single limit for each occurrence. Evidence of such coverage shall be maintained by Consultant/Contractor and provided to City upon request.

Subconsultant/Subcontractor Insurance

Consultant/Contractor agrees to include with all subconsultants/subcontractors in their subcontract the same requirements and provisions of this agreement including the indemnity and Insurance requirements to the extent they apply to the scope of the subconsultant/subcontractor's work. Subconsultant/Subcontractor agrees to be bound to Consultant/Contractor and City of Chico in the same manner and to the same extent as Consultant/Contractor is bound to City of Chico under the agreement. Subconsultant/Subcontractor further agrees to include the same requirements and provisions of this agreement, including the indemnity and Insurance requirements, with any Sub-subconsultant/Sub-subcontractor to the extent they apply to the scope of the Sub-subconsultant/Sub-subcontractor's work.

A copy of the City of Chico Insurance Provisions will be furnished to the subconsultant/subcontractor upon request. Evidence of such coverage shall be maintained by Consultant/Contractor and provided to City upon request.

Workers' Compensation Insurance

Consultant/Contractor shall, at Consultant/Contractor's expense, purchase and maintain in full force and effect workers' compensation insurance as required by Federal and State of California law. Consultant/Contractor shall also require all of Consultant's subconsultants/subcontractors to maintain this insurance coverage. Proof of workers' compensation insurance or other documentation acceptable to City evidencing such insurance coverage shall be provided by Consultant/Contractor or Consultant/Contractor's subconsultants/subcontractors to City upon request.

Subrogation

Consultant/Contractor shall agree to waive all rights of subrogation against City for losses arising from Services performed by the Consultant/Contractor or Consultant/Contractor's subconsultants/subcontractors for City under this Agreement.

Indemnity

Consultant/Contractor/Subconsultant/Subcontractor's responsibility for such defense and indemnity obligations shall survive the termination or completion of this agreement for the full period of time allowed by law.

The defense and indemnification obligations of this agreement are undertaken in addition to, and shall not in any way be limited by, the insurance obligations contained in this agreement.

Professional Liability Insurance

Consultant/Contractor shall obtain professional liability (errors and omissions) insurance, with a minimum \$1,000,000 limit, from one or more U.S. domiciled insurance companies licensed to do business in the State of California with an A.M. Best Company rating of "B" or better providing coverage for services rendered to City under this Agreement.

Said insurance coverage shall be evidenced by a certificate of insurance which shall be executed by an authorized official of the insurer(s). In addition to the limits of coverage described above, the certificate of insurance shall provide that the insurer shall provide to City at least 30 days prior notice of cancellation or material change in coverage, or 10 days prior notice of cancellation for non-payment.

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100-686-5330/99276-000-4800
Budget Account Number

EXHIBIT E

CONFLICT OF INTEREST PROVISIONS

None.

CITY OF CHICO - PROFESSIONAL SERVICES AGREEMENT

DUDEK
Consultant

URBAN FOREST MASTER PLAN & CANOPY COVERAGE ANALYSIS

Project Title

100-686-5330/99276-000-4800

Budget Account Number

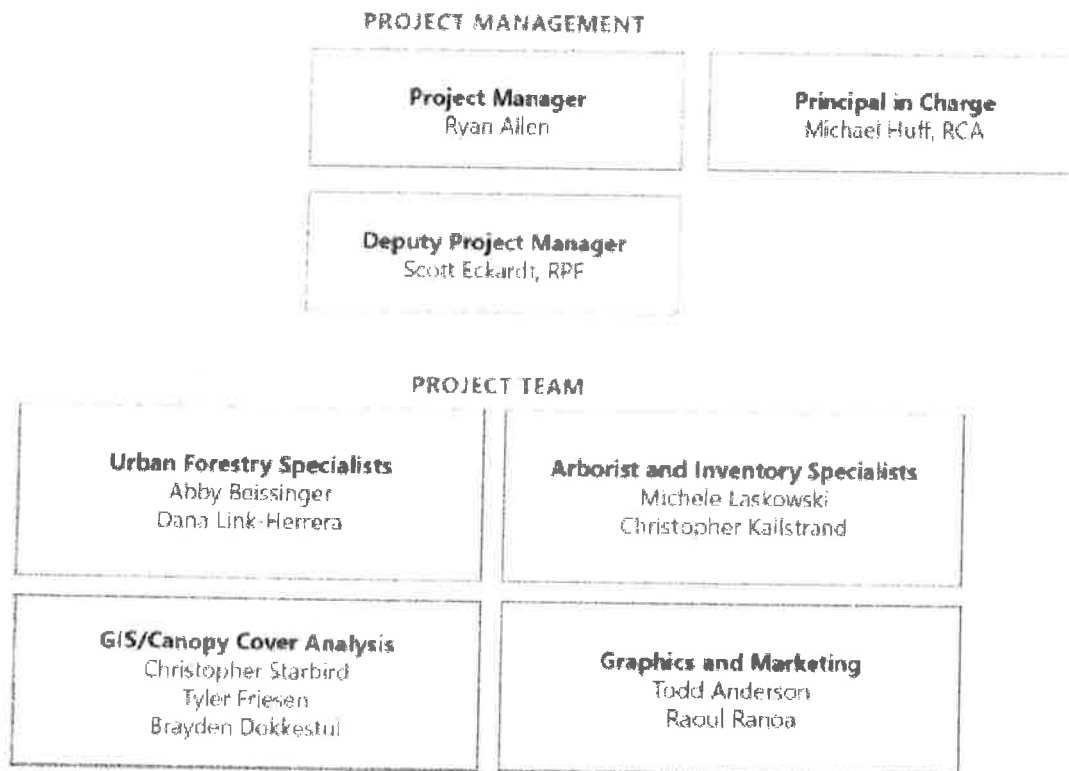
EXHIBIT F

SPECIAL PROVISIONS

1. PROJECT MANAGEMENT

- A. The Consultant shall provide a project manager that will serve as a single point of contact for the City during the project. The Consultant's project manager shall coordinate with the City's project manager for the duration of the project.
- B. The Consultant shall be responsible for all phases of the work required for this project. If subconsultants are required, the Consultant shall abide by the City's terms for using subconsultants, be responsible for the quality and completeness of the subconsultants work and serve as the sole point of contact for the subconsultants.
- C. The City reserves the right to request removal from the project employees or subconsultants who are deemed unsatisfactory.
- D. The Consultant shall develop a project work plan and schedule and submit to the City for approval. The project timeline must allow for all elements of the scope of services including training, testing and implementation.
- E. The Consultant shall submit any project modifications, including changes to the project plan or schedule, to the City for approval. These modifications must continue to meet City needs as stated in the scope of services. The Consultant must obtain written approval from the City before making any changes or modifications.
- F. The Consultant shall notify the City's project manager or designee in writing of any delays, both within and outside the Consultant's control.
- G. The Consultant shall direct, coordinate, and communicate the activities of the Consultant's staff to ensure that the project is completed on schedule and in accordance with the requirements.

- H. The Consultant shall review data for accuracy and completeness before submitting to the City's project manager.
- I. The Consultant's Project Management Team shall consist of:
1. Project Manager (Ryan Allen)
 2. Principal in Charge (Michael Huff)
 3. Deputy Project Manager (Scott Eckardt)
- J. The Consultant's Project Team shall consist of:
1. Urban Forestry Specialists (Abby Beissinger & Dana Link-Herrera)
 2. Arborist and Inventory Specialists (Michele Laskowski & Christopher Kallstrand)
 3. GIS/Canop Coverage Analysis (Christopher Starbird, Tyler Friesen, & Brayden Dokkestul)
 4. Graphics and Marketing (Todd Anderson & Raoul Ranoa)
- K. Any changes to the Project Management Team or the Project Team shall require approval from the City's Project Manager.



2. PROGRAM ACKNOWLEDGEMENT AND RECOGNITION

News releases and/or advertising pertaining to this Agreement shall not be made without prior approval by the City of Chico.

A. ACKNOWLEDGEMENT

All projects must clearly display, identify and label themselves as being part of the “California Climate Investments” program. The acknowledgement must contain the California Climate Investments and Cal Fire logos as well as the following statement:

“Funding for this project provided by the California Department of Forestry and Fire Protection as part of the California Climate Investments Program”.

Consultant will work with the City’s project manager regarding any type of acknowledgements for this project. All acknowledgements will be reviewed by the City’s project manager before any acknowledgement is executed by the Consultant.

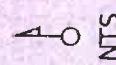
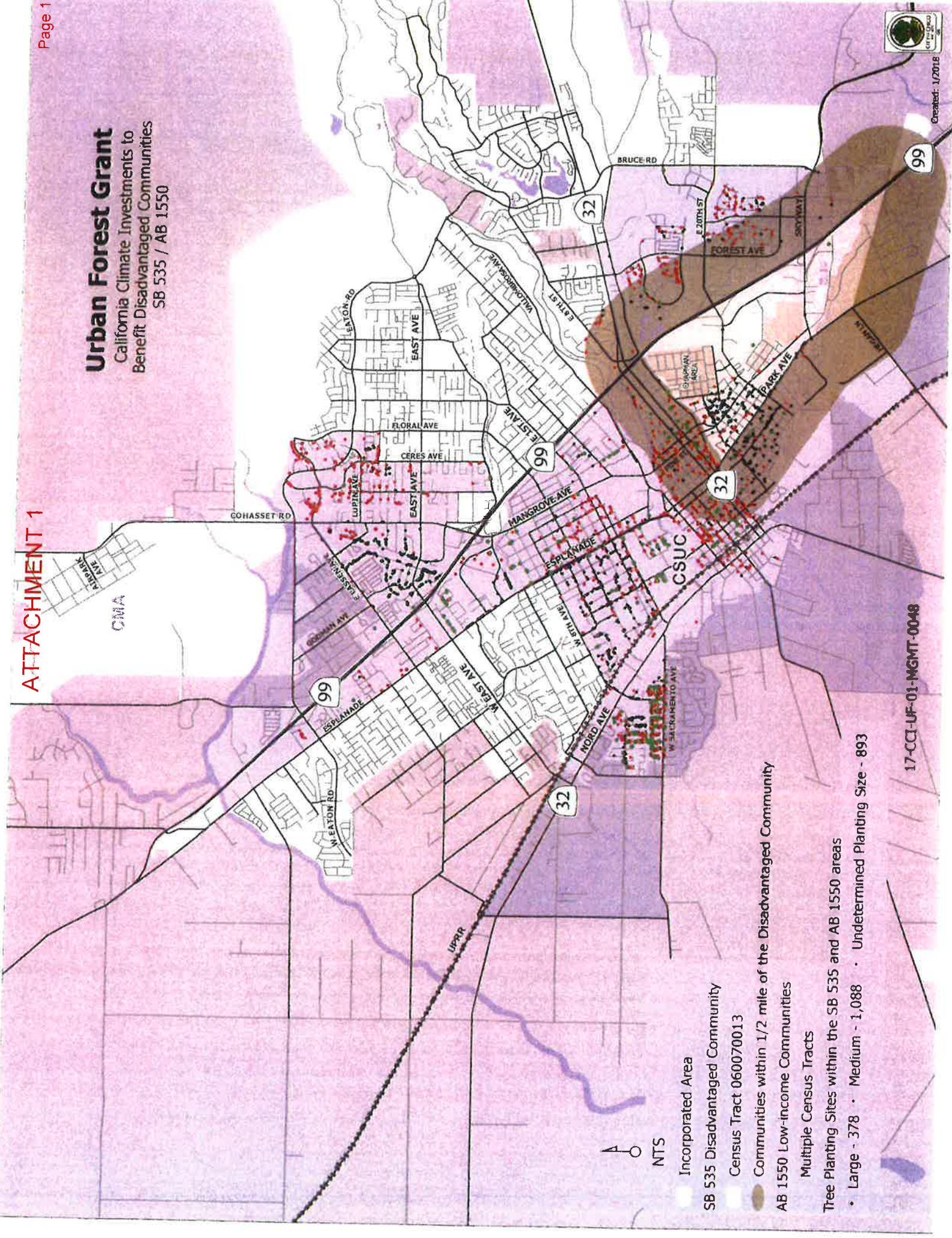
B. RECOGNITION

The City of Chico Urban Forest Revitalization Program is part of California Climate Investments, a statewide program that puts billions of Cap-and-Trade dollars to work reducing GHG emissions, strengthening the economy, and improving public health and the environment—particularly in disadvantaged communities. The Cap-and-Trade program also creates a financial incentive for industries to invest in clean technologies and develop innovative ways to reduce pollution. California Climate Investments projects include affordable housing, renewable energy, public transportation, zero-emission vehicles, environmental restoration, more sustainable agriculture, recycling, and much more. At least 35 percent of these investments are located within and benefiting residents of disadvantaged communities, low-income communities, and low-income households across California. For more information, visit the California Climate Investments website at: www.caclimateinvestments.ca.gov.

See Attachments 7, 8, & 9 for logo information.

Urban Forest Grant

California Climate Investments to
Benefit Disadvantaged Communities
SB 535 / AB 1550



- NTS
- Incorporated Area
- SB 535 Disadvantaged Community
- Census Tract 060070013
- Communities within 1/2 mile of the Disadvantaged Community
- AB 1550 Low-income Communities
- Multiple Census Tracts
- Tree Planting Sites within the SB 535 and AB 1550 areas
 - Large - 378 • Medium - 1,088 • Undetermined Planting Size - 893

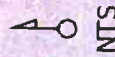
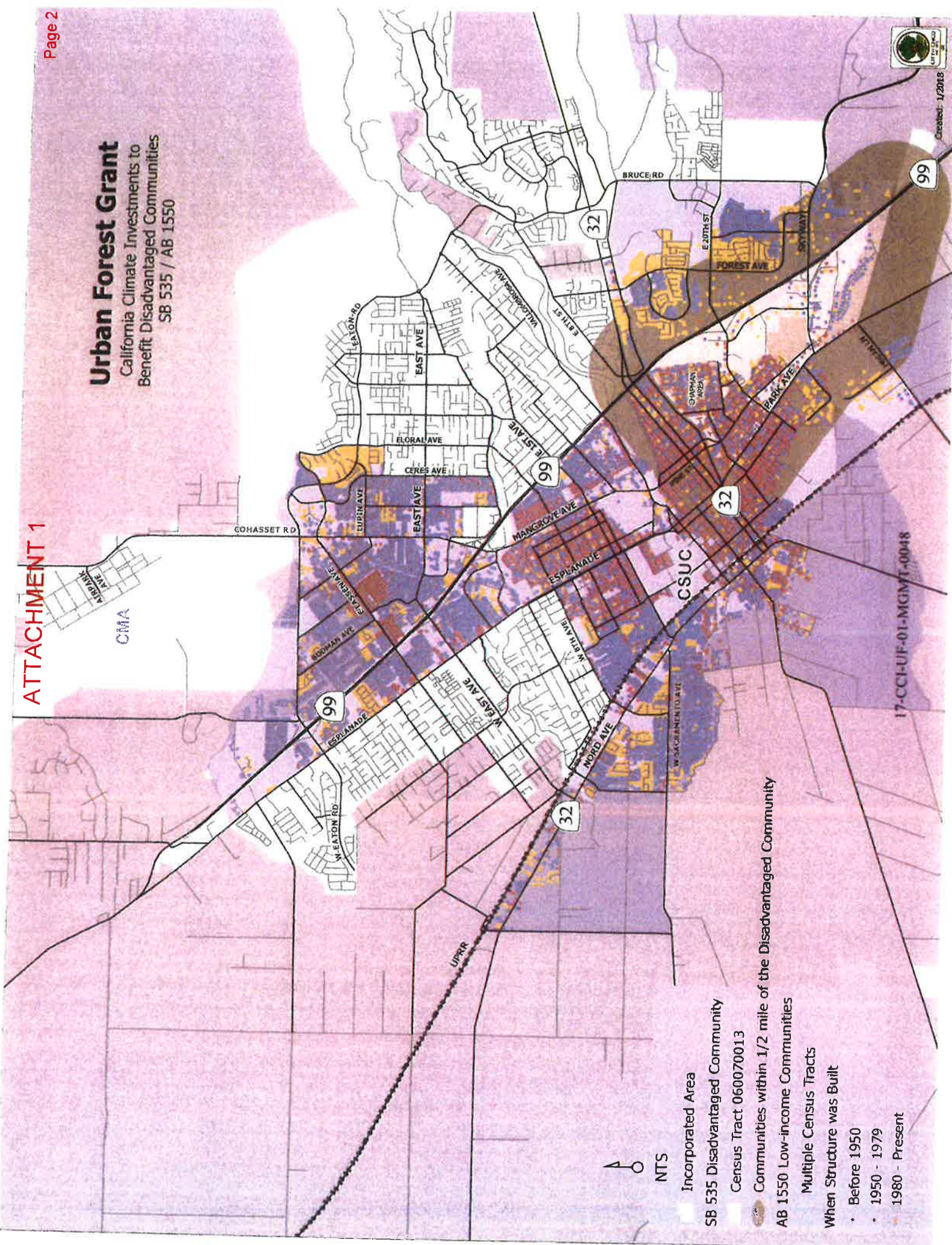
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Created: 1/20/18

Urban Forest Grant

California Climate Investments to
Benefit Disadvantaged Communities
SB 535 / AB 1550



- Incorporated Area
- SB 535 Disadvantaged Community
- Census Tract 060070013
- Communities within 1/2 mile of the Disadvantaged Community
- AB 1550 Low-income Communities
- Multiple Census Tracts
- When Structure was Built
 - Before 1950
 - 1950 - 1979
 - 1980 - Present

17-CCI-UF-01-MGMT-0048



Created: 1/2018



ATTACHMENT 2 - GRANT APPLICATION

2017/2018 Urban & Community Forestry California Climate Investment Grants

Project Application Form

Fill out the form completely. Please see the submittal instructions at the bottom of the form. The Project Tracking Number requested is listed in the letter of invitation you received.



CAL FIRE Project Tracking Number: 17-CCI-UF-01-MGMT-0048

Name of Organization City of Chico

Project Title City of Chico Urban Forest Revitalization Program

Project Type Management Activities For GHG Reduction

Requested Grant \$ \$425,811.00

Matching \$ \$183,102.00

Total Project \$ \$608,913.00

Primary Source of Technical Advice

ISA Certified Arborist

Explanation (if required): SA FL-6463A

Professional's First Name Richie

Professional's Last Name Bamlet

1. Applicant information - Eligible applicants include cities, counties, qualifying districts, or nonprofit organizations qualified under section 501(c)(3) of the Internal Revenue Code.

Type of Organization City

1A. Primary Project Contact information

First Name Mark

Last Name Orme

Email Mark.orme@Chicoca.gov

Phone Number 530 896 7201

Address 1 Municipal Service Center

Address 2 411 Main St

City Chico

County Butte

State California

Zip Code 95928

1B. Secondary Project Contact information

First Name Erik

Last Name Gustafson

Email Erik.Gustafson@Chicoca.gov

Phone Number 530 896 4202

Address 1 Public Works O&M

Address 2 PO Box 3420

City Chico

County Butte

State California

Zip Code 95927

1C. Correspondence Details: List any information needed for project contacts, invoicing, etc.

2. Partner information - List primary project partners or co-sponsors. Applicants must provide a letter of commitment from each partner organization that affirms their role in the project.

2A. Name of Organization 1 Chico State University Geographic Information Center (GIC)

First Name Jason

Last Name Schwenkler

Partner Contact Title Program Manager

Email jschwenkler@csuchico.edu

Phone Number 5308984372

Comments

2B. Name of Organization 2 Butte Environmental Council (BEC)

First Name Natalie

Last Name Carter

Partner Contact Title Executive Director

Email Natalie.carter@becnet.org

Phone Number (530) 720-2319

Comments

2C. Additional Partners: list additional partner organizations with contact person, email address, and phone number.

Chico Tree Advocates (CTA), contact: Robin McCollum email: robinmccollum@sbcglobal.net / AFWD, contact: Luis Moreno email: lmoreno@ncen.org / Butte County Master Gardeners, contact Kay Perkins email: kayperkins@sbcglobal.net

3. Grant Period: provide the estimated start and end dates of the grant project. This date cannot be after March 30, 2022. Final billing must be received within 30 days after the completion date.

Project Start Date Jul 1, 2018

Project Completion Date Mar 30, 2022

4A. AB 1550 - Disadvantaged and Low Income Communities. Denote the percentages of the project that will meet the AB 1550 criteria in *Grant Guidelines Appendix L* for disadvantaged and low income communities and low income households.

Step 1A: within the boundaries of a disadvantaged community (%) 4

Step 1B: within the boundaries of a low income community (%) 60

Step 1C: within 1/2 mile of disadvantaged community and within a low income community (%) 19

Step 1D: provides jobs or job training to residents of low income households (%) 4

Total for all steps in Step 1 (%) 87

4B. Census tracts: list census tracts for the project that will meet AB 1550 criteria from *Grant Guidelines Appendix L*. Census tracts should be listed using the 10 digit number found for each tract on the map(s) at <https://oehha.ca.gov/calenviroscreen/report/calenviroscreen-30>.

AB 1550 Low income community (population in parenthesis) 6007000201 (4052), 6007000300 (4410), 6007000104 (5636), 6007000202 (3723), 6007000700 (4694), 6007000603 (3130), 6007000604 (4217), 6007000502 (4204), 6007000501 (4333), 6007001000 (4801), 6007001100 (4572), 6007001200 (3556). Total population = 51328 minus 3556 for census tract 6007001200 which is counted in buffer = 47,772

Low income 1/2 mile buffer of DAC: 6007001000 (4801), 6007001200 (3556), 6007000903 (6117) Total population = 14474

DAC: 6007001300 DAC Population = 4169.

Total Chico AB1550/SB535 population = 66415. Population = 66415/86187 = 77%

5. GHG Methodology: Fill in the GHG calculated amounts below. Describe the assumptions used to quantify GHG reductions using the ARB Quantification Methodology as required in the grant guidelines and found at: <https://www.arb.ca.gov/cc/capandtrade/auctionproceeds/quantification.htm>. You are required to attach proof that the ARB specified quantification methodology was followed.

5A. Estimated carbon stored (MT CO₂e)	3,709
5B. Estimated avoided emissions (MT CO₂e)	899
5C. Estimated project emissions (MT CO₂e)	230
5D Net GHG benefit (MT CO₂e). (5A + 5B) - 5C =	4,378

GHG calculations and tree selection procedures were carried out according to the following process:

1. Lists were created of known vacant planting sites located in AB1550/SB535 communities.
2. Tree selection sites were filtered and selected for consideration according to two parameters,
 - a) park strip greater than 7' or planting spot located in easement on residential front lawn.
 - b) Sites with no overhead utility wires which would otherwise limit the size of the tree that would be suitable. This was done to satisfy the "Right tree Right place" philosophy.
3. The filtered list was examined line by line using Google Earth and vintage housing maps to determine the three parameters of distance to residence, azimuth and house vintage. This list was then quality assessed for data errors. The tree planting list was analyzed to determine the typical combination of the three data parameters. The representative percentages of the 8 azimuth bearings used in the GHG calculations were as follows: NW- 13%; W-28%; SW - 20%; S - 4%; SE - 8%; E-13%; NE - 8%; N- 13%. Westerly planting locations were given bias when selecting which of the 600 street tree locations to use. This was done to maximize GHG benefits.
4. Tree selection was based on current species lists for the City of Chico. WUCOL criteria was considered and only species scoring very low, low or moderate were selected for consideration. Trees were back-tested in i-tree streets to determine the appropriate species that will maximize carbon sequestration. Only large trees sequestering high amounts of CO₂ over the life of the project were considered. Tree species were also analyzed to determine optimum azimuth and distance choices. This was done by plotting carbon offset values according to azimuth and distance for each chosen species. The resulting data "spiderwebs" were examined to determine the best azimuth and distance positions for each selected tree species. It was noted that an incorrectly positioned tree can cause energy consumption to increase. These tree/position combinations were avoided. White oak, Cork oak, Chinese pistache, Tupelo, Green ash, Deodar and Stone pine were used in i-tree Planting to represent themselves and as a proxy for similar species using representative azimuths and quantities to account for the various combinations of species/azimuth for carbon offset calculations. 100 five gallon Valley oaks were also entered with a caliper of 0.7" at distance >60' to represent park plantings. Twenty-five lines of tree data were entered into i-tree Planting for export into the GGRR calculator.
Assumptions: A. Most housing has both air and heating. This assumption was sample checked using housing data from Zillow. It was determined that 99% has both. 72% of housing is 1950-80,so this vintage was used. GHG calculations were back-tested using the other housing vintage options: For vintage < 1950, Net GHG benefit was 4175MT CO₂e. For vintage >1980 the net benefit was 4371MT CO₂e. 73% of distances from a dwelling were 20'-39', so this range was used to represent all planting locations.
B. Tree planting is scheduled to occur over three years up to March 2022. An average time period of 39 years was therefore selected. Trees were assumed to be 1.5" caliper at planting. Back-testing with various diameters showed close convergence of carbon over 39 years with most diameters.

Nine years was selected as the length of time tree care and maintenance will be provided.

Adjacent residents to each planting site will be contacted via mail and/or house visit by volunteers. Only trees that are welcomed by the resident will be finally selected for tree planting. At this time the resident will also be encouraged to pledge to water the tree for three years. The fate of each planting site will be tracked. This data will be used to calculate final and accurate GHG data. These calculations will be done by staff and volunteers. These assumptions and approach use the best blend of real data measurements in the field in conjunction with theoretical species specific carbon savings in relation to residential dwellings.

6. Narrative. In the sections below, please follow the prompts and provide all relevant information for the project.

6A. Background. Describe the situation in the project area(s) and problems in the project area(s) that need attention.

In 2007 a CSU intern conducted a street tree inventory of publicly owned trees. This effort has formed the basis of all tree management activity since then. Over 2000 new dwellings have been constructed since the time of the 2007/8 inventory. Each new dwelling unit is required to have at least one tree in the public right-of-way. Furthermore, data errors and the need for park trees to be inventoried calls for an updated and over-hauled inventory by a qualified and experienced arborist of an estimated 38000 trees. The City of Chico does not have a fully comprehensive adopted UFMP. The community has been very vocal about hiring an urban forester, which was fulfilled in April 2017. Community members wish to now see clear goals, vision and strategy as the urban forest program is revitalized. An accurate tree inventory, canopy analysis and UFMP will enable clear goals to be set and provide up-to-date cutting edge information to council members, staff and citizens. Goals and objectives will be set and met with authentic community input and participation. Chicoans love their urban forest and its trees. Chico has been a Tree City USA award recipient for the last 34 years. Urban forestry issues are noted in the General Plan and in every publicly commissioned Neighborhood plan. Some examples are presented below: General Plan 2030 Policy SUS-6.4 (Community Trees)- Continue to support the planting and maintenance of trees in the community to increase carbon sequestration; Land Use: Action LU-5.1.4 (Streetscape Enhancement) As part of future roadway development projects in Corridor Opportunity Sites, incorporate streetscape enhancements... such as street trees to improve the pedestrian environment and to act as a catalyst for revitalization. Policy OS-6.1 (Urban forest Maintenance) calls for maintaining and expanding the urban forest by: Maintaining existing city trees through regular scheduled service, planning new trees to replace those that require removal and to enhance the street tree canopy, where needed. Street and parking lot tree planting in new developments are required. Working with commercial parking lot owners to improve the shade canopy. Implementing the Municipal Codes tree protection regulations. Using volunteer groups and property owners to plant new trees, maintain young trees, and provide information and instructions regarding such care and maintenance. Policy CIR C-2.1 (Complete Streets) references opportunities to reduce air pollution and greenhouse gas emissions. "The Avenues" Neighborhood plan in Chico was developed in close conjunction with very active neighborhood participation. One of the recommendations is to ensure the care and preservation of neighborhood trees. Chapman/Mulberry is a neighborhood set in the center of Chico's SB535 Disadvantaged Area. The plan specifies preservation and enhancement of the urban forest. The Southwest Chico Neighborhood plan specifies that trees should be planted where they do not already exist and existing mature trees should be preserved with street and sidewalk improvements that provide ample space for healthy trees.

6B. Project Objectives - What are the objectives of the proposed project? How do they address the situations and problems identified in the background section?

Objectives of the tree inventory and UFMP/UTC component:

1. Develop an up-to-date, accurate and complete street tree inventory. Trees situated along designated trails in Bidwell park will also be inventoried for the first time. This will inform the development of the UFMP and enable tree risk management to be incorporated into decisions regarding street tree maintenance and removal activities.
 2. Develop a comprehensive UFMP and UTC analysis that will chart the steps necessary to enhance and expand Chico's urban forest into the next half-century. Specific objectives of the UFMP/UTC are: Assess the current status of Chico's urban forest to answer the question "what do we have?" then ask "What do we want?" The next step is to develop an implementation plan to achieve the goals and objectives. Provisional estimates suggest Chico's tree canopy is 30%. An objective of the plan will be to attain 40% or ten percentage points from the canopy cover determined from the 2019 UTC study.
 3. Engage in real and authentic community outreach to determine what Chicoans want from the community forestry resource. Build a consensus and a vision from all stakeholders to deliver the full range of economic, social and environmental benefits from the forest.
 4. Enhance forest health and optimize canopy benefits by extending the useful life of urban forest trees.
 5. Use i-tree streets to evaluate the benefit of investment in the urban forest and its care.
 6. Analyze vacant sites and determine the optimum planting program to deliver the most environmental benefits to the community.
 7. Cross reference the UFMP to the Chico General Plan, Climate Action plan and community neighborhood plans.
 8. Increase urban forest health by aggressively removing dead and diseased trees. Reinvigorate the urban canopy by replacing dead and dying trees with new and more appropriately selected tree stock from a revised street tree and parking lot tree list. Increase urban forest resiliency and adapt for climate change by addressing the over-use of a handful of species and genera.
 9. Develop sound tree care and maintenance practices.
 10. Review and update city ordinances, policies and procedures to keep current with updated industry practices, including utility tree pruning. Update and renew the Heritage Tree Program.
 12. Reduce additional GHG emissions where viable by supplying local wood using industry with salvageable wood for furniture and other long-term wood uses as well as supporting employment.
 13. Identify a staffing plan and organizational structure and delivery of urban forestry operations across city, contractors, non-profits and volunteers.
- The attached letters of support demonstrate for Step 2C community consideration of benefits in Table 5-Draft CCI funding guidelines.
 - Objectives of the Community Tree Planting component: Enlist volunteers and provide job opportunities to plant 700 trees in city parks and ROW. Target street tree planting in AB1550/SB535 areas to reduce GHG emissions, store carbon and reduce utility expenditure.
 - This grant proposal is in line with the requirements and desirable attributes because it assists the State's GHG emission reduction targets and provides many co-benefits and cost-effective solutions to addressing the needs of low income/disadvantaged communities. It also improves forest health and management of the urban forest. It also supports industry and job creation.

6C. Scope of Work - Describe the approach to be used, the design (methods), and implementation of the project. Include who will be involved with specific tasks and justify why the approach, methods and implementation is the most effective way to accomplish the objectives. Include a description of project sign contents and their locations. *(continued on next page)*

- City of Chico Public Works has a strong track record of efficiently and effectively administering and delivering programs of this nature. The city urban forester has city, county and State experience in urban and community forestry programs both in the USA and overseas.
 - Tree inventory operations will be conducted by qualified and experienced contractors. ISA BMP protocols will be followed for inventory collection. The consultant will perform a complete street inventory of all trees growing in the ROW in Chico. Observations will be made from the ground and data will be collected by arborists trained and experienced with inventory collection and regional dendrology. The inventory team will use tablet computers to collect CAL FIRE recommended data parameters for each tree and upload the data so it is available in real time. Tree locations will be mapped using the three-tiered approach: GPS technology, map data and the experienced arborists field judgment. This method is very efficient compared to just using GIS data alone. There will be decreased negative effects of weather and satellite factors. Data collection domains will be planned to assure a high level of data accuracy. It is anticipated that this methodology will result in fast project completion. Other parameters such as utility wire presence and sidewalk conflicts will also be noted. Vacant tree planting spots will also be noted. QC checks will be conducted to verify accuracy and thoroughness of the data. Data collection will provide i-tree analysis on the following parameters: Urban Forest Resource Structure, Frequency of Species, Relative Age Distribution, Condition, Relative Performance Index (an analysis of how each species in the inventory is performing against the others, and identification of underused species that are performing above average in the inventory), Canopy Cover overall and over streets and sidewalks and CO₂ Sequestered.
 - GIS staff in Public Works will assist in planning a route sequence as to how the city will be mapped to ensure efficient inventory operations. The consultant will provide weekly progress updates on zone accomplishment to the city forester. This information will be used in grant quarterly reporting. Data will be collected and presented to the City in accordance with all environmental and safety standards and all applicable local, state and federal laws and ordinances. QA reporting and accuracy results will be reported monthly to the urban forester.
 - It is generally recommended to conduct an UTC analysis every five to eight years. The unfunded work of a former CSU M.A. Geography student in 2011 will be used as a baseline for determining the state of Chico's urban forest. It is proposed to contract with a consulting forestry company to produce a 2019 UTC report after the street tree inventory is complete. For the City of Chico, area and percentages of canopy cover will be calculated for each land cover type and designation. This comparison of canopy cover with land designations will form the basis for recommendations and goals for the City's urban forest. Land Cover Metrics will provide analysis of land cover summaries for the entire City. Neighborhoods, census tracts, watersheds will also be assessed. Summaries for land cover class and potential planting area will be calculated during this procedure. Ecosystem Services using the tree canopy percentage from the land cover analysis, ecosystem benefits for air quality, carbon, and stormwater will be assessed using i-Tree canopy and hydro software. The amount of pollutants in stormwater runoff that are generated will also be calculated. A Priority Planting Analysis will be done to determine areas that are biophysically feasible to support trees, estimate budget implications and account for the number of trees plantable by crown size. A planting plan will be created prioritizing target planting areas. Focus will be on considerations such as socio-demographics, environmental factors such as heat island effect, soil type etc. Canopy Change will analyze canopy cover based on current conditions and data from the last assessment to help create a strategic planting plan. A Socio-Economic and Demographic Analysis will be done. This data will be used by the City to prioritize results of the UTC analysis even further. Analysis will include Canopy % vs. median household income, population density, ethnicity, age group, education, poverty rates/unemployment, building value/age. This analysis will help identify areas of the community that are underserved. A Tree Canopy Health Assessment will be done, utilizing NDVI to extract ratio values from the most current NAIP imagery using the red and near-infrared bands. This will help focus attention on areas in most need of maintenance and tree care. This also can assist in defining older trees that are at risk of dying. A Forest Fragmentation analysis will be done to get a better understanding on the degree of fragmentation of the forest and an understanding of how to address the issue.
 - Public Works Operations and Maintenance will hire an experienced consultant to develop the UFMP. This document will include an implementation plan that will outline what steps need to be taken to achieve the plan goals over the next fifty years. Several areas of analysis will be undertaken: An Organizational Analysis will include a review of management practices, staffing, and inter and intradepartmental relationships. Technical Needs Assessment, Analysis and Goal Establishment, Research and interviews with 5-7 peer communities, Action Plan Recommendations, Priorities and Implementation will be developed. Leadership input including Urban Forestry Department Historical routine tree maintenance costs, Costs for emergency and restoration work, Specific costs related to pest and disease management, Vehicle and equipment inventory and staging, In-house resources compared to contract services, Invasive pest preparedness, response and management strategies will also be analyzed.
- Community involvement from underserved communities:
Community involvement will be multi-faceted and will revolve around the active student community and other civic groups.

- The City of Chico has partnered with many stakeholders to deliver the objectives of this grant. Stakeholders are highly qualified and experienced in their respective areas of focus, as referenced in the attached Letters of Commitment and biographies.

Public Works intends to fully engage the community in the outreach component of UFMP development and plan implementation as well as tree planting. GIC will lead outreach engagement opportunities. Public Works will partner with GIC to provide real-world learning opportunities to CSU students. Outreach methods such as booths and displays at farmers markets as well as designing and administering survey monkeys / polls / creating leaflets will be initiated.

In conjunction with Public Works staff, media and website outreach strategies will also be developed. Community input will also be sought at publicly noted Parks Commission and Tree Committee meetings.

Homeowners adjacent to tree planting sites will be contacted to generate support and commitment to ongoing tree care.

Public Works will also work with CSU Institute for Sustainable Development/Resilient Cities Initiative as part of the South Campus urban forest plan. The Institute is currently planning to use the South Campus urban forest as a living laboratory for student learning. Outside the remit of this grant proposal, CSU students will develop a management plan for the six by eight block of South Campus. The City urban forester will collaborate with the Institute and partake in student learning. It is anticipated that outcomes from this project will contribute to the development of the city-wide UFMP.

- Public Works parks department has a strong track record of engaging volunteers and typically reports over 2000 volunteer hours monthly. Chico Tree Advocates (CTA) is a group of Butte Environmental Council (BEC). Membership is comprised of community volunteers who want to see a thriving urban forest in Chico. CTA will lead community tree planting events in partnership with staff from Public Works. It is anticipated that volunteers in this program in conjunction with other civic groups will plant 100 oaks in Bidwell park.
- Pi Kappa Alpha is a fraternity house in Chico. Administered by Chico First, members have agreed to donate 400 hours of community service to the needs of this proposal to enhance the urban forest. In conjunction with Public Works, BEC and CTA will organize three community street tree planting events with this group in the South Campus neighborhood. Twenty-five trees will be planted at each event for a total of seventy-five trees. This will foster a genuine sense of ownership of community green infrastructure.
- Butte County Master Gardeners will lead public education to raise awareness of the benefits that trees bring to the community. Free Fall and Spring educational classes will be available to the community. It is anticipated that free trees will be available to all participants. These trees will be provided by Public Works and may be in addition to the 700 trees in this grant if they will not form part of the GHG reporting requirements.
- Alliance for Workforce Development (AFWD) is a non-profit that helps place at-risk youths into employment. Public Works will enter into a Youth Internship program to provide employment opportunities to four youths from the AB1550/SB535 area of Chico. Public Works has a track record of successfully utilizing this program in the Parks Division. Skills training and supervision in a basic tree worker role will be provided throughout participation and supervised and trained by a Senior tree crew employee. Four hundred trees over two years will be planted. All trees planted as part of this grant program will be maintained by AFWD employees during and beyond the initial period of the grant.

All trees will be maintained for at least nine years to include watering, mulching, pruning and replacement.

All 600 Street plantings and 40 of the park trees will be planted in SB535/AB1550 areas equating to 640 of the 700 trees in this program.

All of Chico will benefit from the co-benefits that the new trees will provide.

Planting methodology will follow ISA BMP's for correct tree planting. This will include correct site selection, tree quality assurance, site preparation, planting, mulching, staking, watering regimes and formative pruning. Trees will be inspected by staff monthly throughout the watering season and once additionally in the winter. Grant funded trees that die will be replaced the following season. After the establishment period has ended trees will enter the cities cyclical pruning program for young trees of five to seven years. All of the above approaches and methods will provide up-to-date scientific data combined with valuable input from all reaches of the community. Combining science, community engagement and collaboration in plan delivery will enable the City of Chico to earn an ISA Sterling award in ten years. This accolade will serve as a valuable proxy to indicate that Chico's urban forest is functioning as it should.

A number of methods will be employed to promote CCI and CAL FIRE grant assistance. All publications will list acknowledgment to CCI and CAL FIRE. All signage will refer to CCI, and shall include the names and logos of CAL FIRE Urban & Community Forestry Program. Each tree planted will have attached a temporary hanger to promote the grant and both agencies. Signage will be provided in key streetscape areas. A short promotional video will be produced that will highlight the projects funded and will be available on the Public Works Facebook page, City of Chico Public Works Tree Division web page and other media outlets. Full credits and recognition will be given to CCI and CAL FIRE for funding assistance. Signage will be on site for at least three years after the project is complete.

6D. Project Time Line - Provide a general project time line. Do not list specific dates or months due to uncertainty in when projects may begin. Plan on projects ending no later than March 30, 2022.

Timelines:

Street Tree inventory: Summer 2018- spring 2019.

UFMP/ UTC Commence Summer 2019. Complete spring 2020.

Tree planting: Seven time periods: Fall 2018, Spring and Fall 2019, Spring and Fall 2020, Spring and Fall 2021.

6E. Tree Information (if applicable) - Provide the following information about any trees or plants to be planted as part of the grant project. Include information even if the trees or plants are not to be funded by CAL FIRE.

Species List - Provide a list of the tree and plant species for this grant project . Include common name, Genus, and species. Include the approximate number of each species to be used. List minimum planting stock size for each species.

100 trees Valley oaks #5 pots 0.7" caliper for easier handling during volunteer events and improved root/shoot ratio and establishment success.

600 trees in total. #15 pots. 1.5" caliper, 16 different types. Species, quantities in parenthesis;

Valley oak (35); Blue oak (10)

Holly oak (60); Cork oak (30);

Scarlet oak (30) ; Red oak (20);

Chinese elm (70); Chinese pistache (Keith Davey) (75)

Southern magnolia (40) ;

Tupelo (50);

Green ash (70)

Deodara (10); Italian Stone pine (10); Canary Island pine (10)

Ginkgo-male only (40) and

Zelkova-Village green (40)

Total Project Trees: 700

Total CAL FIRE Funded: 0

6F. Other deliverables. List all other project deliverables and quantities to be funded by CAL FIRE, as well as overall project totals.

Comprehensive Urban Forest Master Plan

Citywide Urban Tree Canopy Analysis

Citywide Street Tree Inventory and database.

Outreach data that will inform the objectives of the UFMP.

Publicity materials and events including media releases, interviews and educational leaflets and website information.

All trees in the project will be funded through match. This includes

600 new street trees

100 new park/open space trees. 660 of these trees will be focused on the low-income areas of the City.

The tree planting component of this project will compliment the \$18,000 Re-leaf grant recently awarded to BEC to focus on the DAC area of the City.

The worksheet attached demonstrates how the values in Box 4A were calculated. 87% of Total match and grant funds will be allocated to AB1550/SB535 communities. An alternative worksheet demonstrates that the grant only portion of the project, if considered separately would allocate 79% of funds to AB1550/SB535 communities.

7. Budget Information

7A. Budget Detail - Provide a specific budget for work to be done. The budget should be based on bid quotes and/or estimates from vendors or on actual costs that will be incurred. The line items listed should be specific enough to adequately describe project expenses. Use the Excel format CAL FIRE has provided for your budget, and follow the guidance in the Procedural Guide. You should note that applicants, if successful in being awarded a grant, will have to follow this budget and will only have the opportunity for minor budget adjustments. The total amount of the project can not be changed later.

7B. Vendor List - List the vendors that have provided you quotes or estimates for this project.

Western Tree Nursery 2603 State Highway 70, Oroville, CA 95965. Email : oroville@westernnurseryinc.com tel: (530) 532-4238
 Davey Resource Group. Contact: Anne Fenkner email: Anne.fenkner@davey.com Tel: (916) 214-5908
 Dragon Graphics, 1465 Mangrove Ave, Suite B, Chico CA 95926
 GIC Geographical Information Center, 35 Main St, Chico CA 95928.
 Butte Environmental Council. Natalie Carter (530) 720-2319
 Butte College Environmental Horticulture Dept. Contract tree growing.

7C. Explanation of Budget and Costs - Describe the basis for the budget amounts listed above. Applicants will be expected to adhere to this budget (*Continued on next page*).

- Staff time over 3 years:

Urban Forest Manager 15% of time = 976hrs on administration, planning, GHG calculations, logistics, outreach, and the consultant.

Street Tree Supervisor 5% time = 300hrs overseeing daily operations for staff and workforce employees.

Senior Tree Trimmer 696 hrs direct supervision of workforce trainees and tree planting / watering / maintenance.

GIS Tech 40hrs assisting with mapping for planning and logistics purposes.

Parks Volunteer Coordinator 40 hrs assisting with volunteer events.

Facilities Manager 40hrs producing educational and promotional video.

- Quotes from Davey Resource Group for tree inventory for three person team of arborists with full back-office support \$178,000.

- Davey Resource Group quote for UTC and UFMP \$140200. Equipment costs are \$5000 for TreeKeeper software for three years.

- The supplies section includes \$6000 for outreach materials and CCI signage. - to be paid for from city communication budget. Tree, stakes, ties, and mulch supply quoted from Western Tree Nursery (wholesale price \$44 for 700 trees) all in total \$39560. This cost along with stakes/ties/mulch is to be fully funded as match by the City of Chico developer fund.

Contractual tree removals will be covered by match. These tree removals will be strategically targeted in disadvantaged/low income neighborhoods adjacent to residences that will benefit from a new tree for carbon offset and energy saving benefits. Between 5 and 10 trees will be removed and used in publicity of the program.

- The outreach component covers the tree planting program in the SB353/AB1550 area as well as citywide UFMP outreach. 12% of the grant request is for education and outreach.

Match education and outreach is the volunteer 800 in-kind hours from local CSU students, Chico Tree Advocates, BEC and parks volunteers. Volunteers will plant 300 trees. 144 additional in-kind hours will be allocated to outreach at Thursday Night Farmers markets on 18 occasions over two years. The 2017 value of volunteer time from independentsector.org \$29.06 was used to value volunteer time. Total. \$51716

- Alliance For Workforce Development (AFWD) will provide four youth workers from the disadvantaged area for 12 week terms at 29/hrs/wk paid by AFWD at prevailing wage. Total 1392 hours. Youth workers will work with City of Chico Public Works Tree Division planting and maintaining 400 trees, assisting volunteer groups during planting events and maintaining the trees that volunteers planted in current and previous years. Value of employment contracts calculated \$17/hr in year 2 and \$17.90 in year 3.

- Non-profit 501(c)(3)'s Geographical Information Center (GIC) and Butte Environmental Council (BEC) direct costs \$45200 and \$5000 indirect costs for staff time involved with outreach, planning and logistics activities for tree planting events in the low income areas as well as citywide UFMP development outreach. Education and outreach will be coordinated by GIC to canvass homeowners adjacent to street tree planting locations. An Outreach coordinator and volunteer interns from GIC as well as BEC Executive Director and staff's time will be covered by this component.

7D. Matching Funds - List other non-GGRF funding sources, that will meet grant matching requirements.

Source 1	City of Chico In-lieu developer funds	Amount	\$41,360.00
Description	Developer funded accounts will be used to pay for and maintain new trees.		
Source 2	Payroll Public Works staff time and Communication budget	Amount	\$70,244.00
Description	Staff time working directly on grant related projects has been approximately 50/50 split between grant funded and matching. Communication budget will be \$6000 for the project term		
Source 3	Volunteer hours in-kind	Amount	\$51,717.00
Description	The monetary value of in-kind volunteer time using data for 2017 at independentsector.org for California \$29.09/hr		
Source 4	Contractual Tree work	Amount	\$21,582.00
Description	Selected trees adjacent to residential homes at the end of their useful life will be removed and replaced with new trees as part of the initiative to keep the forest healthy and resilient.		
Matching funds comments	Matching funds total 30% as reported.		

8. Project Co-Benefits - What co-benefits will the project have? Check the boxes below for the applicable co-benefits, then describe and/or quantify them. Describe how the project will achieve the co-benefits.

- | | | |
|--|--|--|
| <input checked="" type="checkbox"/> Stormwater reduction | <input checked="" type="checkbox"/> Improved public health | <input checked="" type="checkbox"/> Jobs created |
| <input checked="" type="checkbox"/> Improved water quality | <input checked="" type="checkbox"/> Enhanced active transportation | <input checked="" type="checkbox"/> Job training conducted |
| <input checked="" type="checkbox"/> Improved air quality | <input checked="" type="checkbox"/> Reduced vehicle miles travelled | <input checked="" type="checkbox"/> Community outreach conducted |
| <input checked="" type="checkbox"/> Energy savings | <input type="checkbox"/> Vacant lot(s) acquired | <input checked="" type="checkbox"/> Education tools/media produced |
| <input checked="" type="checkbox"/> Biomass diverted from landfill | <input checked="" type="checkbox"/> Improved urban forest management | <input checked="" type="checkbox"/> Other co-benefits |

The following co-benefits can be realized from this program:

Stormwater reduction (3.6 M gallons) and improved water supply (note: In CalEnviroScreen 3.0 some Chico census tracts score 81% for drinking water contaminants and 95% for groundwater threats).

Increased canopy interception of precipitation. Rainfall intercepted = 27.7 M gallon.

Improved air quality. Pollutants removed from the air, Ozone removed = 15,542 lbs, SO2 removed = 309 lbs., VOCs avoided = 1788. lbs.

PM 2.5 emission reduction estimate is 245 lbs. NOx emission reduction estimate is 1435 lbs.

Amount of stored carbon in the planted trees over 40 years is 8,421,837 lb Co2e.

Other co-benefits include enhanced tree canopy from the expanding and vibrant urban forest.

Energy savings: targeted tree planting in large planting sites near residences to maximize tree size and energy savings 4.8M KWh.

Biomass diverted from landfill by partnering with local wood using industry. Salvaged urban wood is used in furniture/cabinetry.

Improved public health: Tree planting creates more shading and cooling and reduces upper respiratory illnesses, asthma and heat induced ailments.

Enhanced active transportation and reduced vehicle miles traveled by promoting "Complete Streets" with tree shade.

Bicycle and pedestrian infrastructure will be improved with trees. This will help reduce Vehicle Miles Traveled in private vehicles due to the enhanced street-scape for bicyclists and pedestrians.

8. Project Co-Benefits - continued from previous page.

Policy and Ordinance improved to provide updated guidance on tree law for residents and developers.

Improved urban forest management by having a long-term strategic plan that guides annual work plans, safety, best management practices.

Jobs created by employing contractors and consultants who in turn employ local citizens.

Job training provided in partnership with employment agencies to enable youth to overcome barriers to employment.

Community outreach conducted by active participants in the community to seek genuine input that will shape future direction of urban forest management activities.

Educational tools and media produced on city websites/ publications / educational classes.

Other benefits include enhancing Chico's image as a green city. This will attract inward talent and investment as people see Chico as a desirable place to live because of its well managed green-spaces and streets-scapes. Other co-benefits include civic pride and volunteerism that makes a difference, slower traffic speeds, an increased tax base from enhanced property values, Increase cognitive function and reduce attention fatigue in students, reduce stress and crime.

9. Certifications & Forms- The following certifications must be filled out and signed by the appropriate person.**9A. Certification of Party Responsible For Maintenance**

I, Appropriate representative Mark Orme

certify that the Appropriate agency City of Chico

will provide or be responsible for 100% of the maintenance for a minimum of 3 years after the end of the grant period in accordance with ANSI A-300 tree care standards, the accompanying ISA Best Management Practices and the standards outlined in the grant agreement and/or grant attachments with the California Department of Forestry and Fire Protection.

Signature

Mark Orme

Date May 24, 2018

Title City Manager

Phone Number (530) 896-7201

9B. Statement of Compliance With All Applicable Laws (all projects must fill out and sign)

I, Appropriate representative Mark Orme

certify that the Appropriate agency City of Chico

will abide by all applicable federal, state, and local laws, ordinances, regulations and policies in carrying out this State bond-funded project. Failure to do so will lead to cancellation of the grant award.

Signature

Mark Orme

Date May 24, 2018

Title City Manager

Phone Number (530) 896-7201

17-CCI-UF-01-MGMT-0048

9C. Recycling Certification (all projects must fill out and sign) - This certification applies to all state contracts and, to the extent feasible, all federally funded contracts.

Contractor certifies under penalty of perjury that percent 20 of the minimum, if not exact, percentage of recycled content, both post consumer waste and secondary waste as defined in the Public Contract Code, Sections 12616 and 12200, in materials, goods, or supplies offered or products used in performance of this Agreement, regardless of whether the product meets the required recycled product percentages defined in the Public Contract Code, Sections 12161 and 12200. Contractor may certify that the product contains zero recycled content. (PCC 10233, 10308.5, 10354)

Signature

Mark OrmeDate May 24, 2018Title City ManagerPhone Number (530) 896-7201

9D. Checklist of Necessary Forms To Be Completed. Some may not be applicable to your project.

- | | |
|--|---|
| <input checked="" type="checkbox"/> CAL FIRE Urban Forestry Program Environmental Checklist | <input checked="" type="checkbox"/> State of California Non-Discrimination Compliance (Std. 19) |
| <input checked="" type="checkbox"/> Proof of AB 1550 community designation. | <input checked="" type="checkbox"/> State of California Drug-Free Workplace Certification (Std. 21) |
| <input checked="" type="checkbox"/> Governing Body Resolution (must follow sample format) | <input checked="" type="checkbox"/> State of California Payee Data Record (Std. 204) |
| <input checked="" type="checkbox"/> Representative project area maps with AB 1550 information. | <input checked="" type="checkbox"/> Signed letters of participation from listed partners |
| <input checked="" type="checkbox"/> Project sign schematic (including CAL FIRE and CCI logos) | <input checked="" type="checkbox"/> Documentation of support (AB 1550 Step 2C) |
| <input checked="" type="checkbox"/> 5-10 representative site photos | <input checked="" type="checkbox"/> Proof that ARB quantification methodology was followed |
| <input checked="" type="checkbox"/> Urban and Community Forestry Project Budget | <input checked="" type="checkbox"/> Other: |

List other

attachments:

worksheets showing calculation of Box 4A. • Biographies
List of previous grant awards in past 5 years
Sample grant summary from previous Urban Greening grant.

SIGNATURE: The authorized primary project contact for the applying organization must sign below. This must be the person, or person holding the position, that is mentioned in the required governing body resolution, and the same person or position signing all of the other required forms. The signature indicates that, to the best of the signer's knowledge, all of the information provided in this application and all attached required forms and documents is accurate and correct. The signer additionally acknowledges that they have read and understand the grant program RFP and the Procedural Guide common to all of the CAL FIRE Urban & Community Forestry grant programs.

Signature

Mark OrmePrinted Name Mark OrmeTitle City ManagerDate May 24, 2018

Please fill out this form completely. Be sure to save a copy of this form for your records. Submit one (1) electronic copy in the fillable PDF format with all supporting materials to CALFIRE.Grants@fire.ca.gov. Please use "U&CF GGRF Project Application" in the E-mail subject line and include yourself as a cc. Your CC will be proof of your submittal. In addition, submit one (1) hard copy with signatures and all supporting materials to: California Department of Forestry and Fire Protection, Attention: Grants Management Unit/Urban and Community Forestry Greenhouse Gas Reduction Fund Grant, P.O. Box 944246, Sacramento, CA 94244-2460. Both hard copy and electronic copy must be postmarked no later than the due date in the invitation letter you received. If you would like to mail the hard copy via expedited/overnight mail, please E-mail CALFIRE.Grants@fire.ca.gov for the physical mailing address.

CAL FIRE Urban & Community Forestry Program GHG Reduction Grants

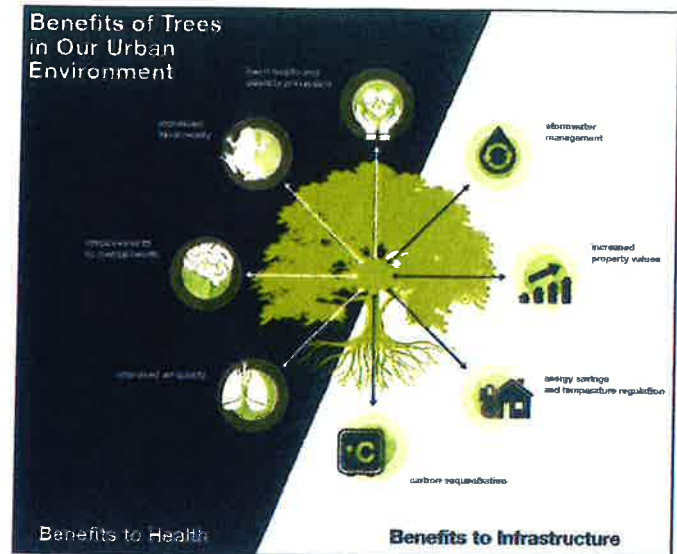
17-CCI-UF-01-MGMT-0048

Budget Item	Description	Cost Basis	CAL FIRE Grant Share	Grantee Match	Total
A. Salaries and Wages			30,067.00	36,781.52	66,848.52
	Urban Forest Manager	936 hours x \$36.86/hour	18,430.00	16,070.96	34,500.96
	Street Tree Supervisor	300 hours x \$33.55/hour	-	10,065.00	10,065.00
	Senior maintenance Worker	696 hours x \$25.86/hour	11,637.00	6,361.56	17,998.56
	GIS Tech	40 hours x \$34.54/hour	-	1,381.60	1,381.60
	Parks Volunteer Coordinator	40 hours x \$30/hour	-	1,200.00	1,200.00
	Manager – U&CF promo video	40 hours x \$42.56/hour	-	1,702.40	1,702.40
B. Employee Benefits			22,343.50	27,461.74	49,805.24
	Urban Forest Manager	936 hours x \$24.41/hour	12,205.00	10,642.76	22,847.76
	Street Tree Supervisor	1 staff x 300 hrs x \$26.71/hr	-	8,013.00	8,013.00
	Senior maintenance Worker	1 staff x 696 hrs x \$22.53/hr	10,138.50	5,542.38	15,680.88
	GIS Tech	1 staff x 40hrs x \$23.56/hr	-	942.40	942.40
	Parks Volunteer Coordinator	1 staff x 40 hrs x \$23.21/hr	-	928.40	928.40
	Manager – U&CF promo video	1 staff x 40 hrs x \$34.82/hr	-	1,392.80	1,392.80
C. Contractual			368,400.00	21,582.00	389,982.00
	Contractor- City tree Inventory	1 contract \$178,000	178,000.00	-	178,000.00
	Contractor- Master Plan	1 contract \$140,200	140,200.00	-	140,200.00
	GIC – Community outreach	Staff costs	45,200.00	-	45,200.00
	Contractor- tree removal/ stump grind		-	21,582.00	21,582.00
	Butte Environmental Council	Staff costs	5,000.00	-	5,000.00
D. Travel			-	-	-
			-	-	-
E. Supplies			5,000.00	45,560.00	50,560.00
	Trees	700 #15 trees @ \$44/tree	-	30,800.00	30,800.00
	Tree Stakes	1400 @ \$5.9/tree	-	8,260.00	8,260.00
	mulch and ties	1400 @ \$0.35/tree	-	500.00	500.00
	TreeKeeper or equivalent	5000	5,000.00	-	5,000.00
	Communication supplies	Outreach and promotional	-	6,000.00	6,000.00
F. Equipment			-	-	-
			-	-	-
G. Other			-	51,716.56	51,716.56
	Volunteers – BEC/ CTA	400 hours volunteer time	-	11,636.00	11,636.00
	and Master Gardeners		-	-	-
	Chico First / PIKE volunteers	400 hours volunteer time	-	11,636.00	11,636.00
	AFWD job placements year 2	696 hours 2 employees	-	11,832.00	11,832.00
	AFWD job placements year 3	696 hours 2 employees	-	12,423.60	12,423.60
	Student volunteers Farmers Market outreach	144hrs 18 occasions / 2 students / 4 hours	-	4,188.96	4,188.96
TOTAL DIRECT COSTS			425,810.50	183,101.82	608,912.32
INDIRECT COSTS			0%	-	-
TOTAL PROJECT COSTS			425,810.50	183,101.82	608,912.32
LESS Program Income			-	-	-
TOTAL GRANT PROPOSED COSTS			425,810.50	183,101.82	608,912.32
			70%	30%	100%

Urban Forest Master Plan

Dudek will use i-Tree software to analyze the tree inventory and to calculate the economic value of the City's urban forest and the cost benefits of strategic tree and forest investments. (Figure 6 shows an infographic about the benefits of trees, created by Dudek's graphic designers.) The ecosystem benefits we will examine include canopy cover, carbon sequestration, reduction of urban heat island effect, average pollutant capture, avoided runoff, energy savings, avoided emissions, and structural and functional value. Dollar amounts will be provided for these benefits, which will be useful for education, long-term planning, and securing tree program funding. We will calculate the City's return on investment into its urban forest by measuring the current level of investment (ongoing maintenance and management-related costs) against what the City receives in ecosystem services and the urban forest's asset value.

Figure 6. Benefits of Trees Infographic Developed by Dudek's Graphic Designers



Dudek will also analyze the inventory datasets from the City's tree inventory to gain a better understanding of the urban forest's overall condition, including health; species diversity on the street, neighborhood, and community levels; and age trends, as related to anticipated longevity. The analysis will compare the current condition of the City inventory against research-supported sustainability indicators, which provide a baseline measurement and change analysis. The resulting information will be important for developing management recommendations associated with tree removal, tree planting, trimming cycle adjustments, budget establishment, and related maintenance activities.

Citywide Tree Planting Analysis

The next aspect of assessing tree planting opportunities is to understand the spacing limitations in the ground and air that restrict where trees can be planted, and what species are appropriate for the locations. Spacing restrictions include parkway and median sizes, utility lines, intersections, streetlights, and other components of City infrastructure. The presence or absence of conflicting infrastructure will determine whether a tree can be planted in a particular location and the size of the tree that can be planted in the location. Dudek urban foresters will use this information to employ the standard urban forestry principle of "right tree, right place" and further refine where trees can be planted; they will also use the information to determine appropriate tree species to plant on each street, parkway, and median location. This strategy will help mitigate tree and infrastructure conflicts.

Dudek will develop a comprehensive tree species list for use for future tree plantings that would be completed during this task, which includes a discussion of trees in developed public property (i.e., sidewalks, streets, medians, and landscaped parks). To complete this task, Dudek will utilize the tree inventory data, Water Use

Classification of Landscape Species (WUCOLS), climate change research, and a comparison of City tree inventories with anticipated future annual temperatures of Chico to assess the following:

- Appropriateness of the type of tree by location ("right tree, right place")
- Appropriateness for future climate conditions
- Low water use
- Pest and disease vulnerability
- Appropriate planting of numbers of species to achieve species diversity goals of UFMP

Results of this analysis will be used to develop a list of recommended tree species that will be suitable for the City's current environmental conditions as well as anticipated conditions caused by climate change. The recommended list will also incorporate a discussion of parkway and median sizes as well as spacing limitations from existing infrastructure. Recommendations will then be developed for specific street, parkway, and median locations throughout the City based on the recommended tree species list and spacing restrictions. The result of this effort will be a citywide map depicting selected tree species and estimated quantities of trees that can be planted for all identified locations.

Current Status of the Urban Forest

Dudek will use i-Tree Eco tools, canopy cover and tree inventory data, and a review of tree management practices to conduct a thorough analysis of the status of the City's publicly managed urban forest.

Urban Forest Composition Analysis

We will begin by utilizing the canopy cover analysis and inventory analysis of the publicly managed urban forest's species composition, health distribution and overall condition, canopy extent, and age distribution. The analysis will provide a framework for determining the City's tree canopy goals as they apply to the urban forest's health, equity, and related open space and community benefits (Figure 7). The analysis will also identify tree management recommendations that target specific problems and help form the basis of incremental milestone goals.

Figure 7. Tree Benefits Increase as Trees Grow Larger and Mature

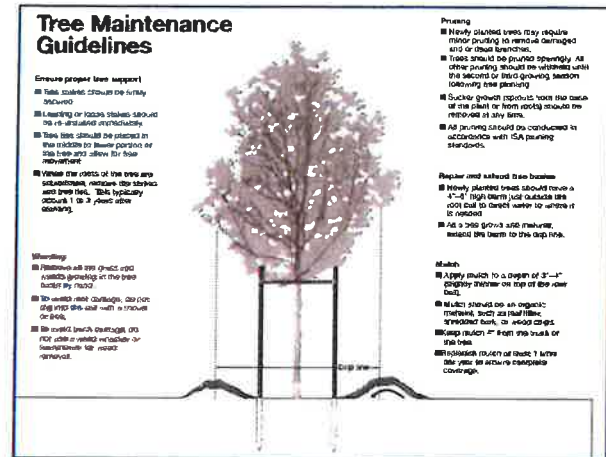


Comprehensive Review of the City's Urban Forest Policies, Practices, and Procedures

Following, or in conjunction with, the urban forest composition analysis, Dudek will conduct a comprehensive review of the City's urban forest policies, practices, ordinances, and procedures. We seek to understand current tactics, identify areas for improvement, so that the City meets the standards of sustainable urban forest management. Development of this UFMP section will include a review of the current City standard guidelines, along with details and design practices that relate to City trees. Existing guidelines will be measured against current best management practices, and we will then summarize these documents and provide a set of recommendations for future modifications. The internal City review will also be informed through the previously discussed City staff interviews.

Based on this review process we will document the City's current maintenance procedures, provide a summary of our analysis and comparable City standards, make recommendations for altering the maintenance strategies based on best practices, and provide justification for the recommended revisions (Figure 8).

Figure 8. Example Tree Maintenance Guidelines Developed by Dudek Urban Forestry Specialists



Strategic Plan

Based on our comprehensive analyses, data synthesis, interviews, and community engagement activities, Dudek will create an actionable strategic plan for the City's urban forest that will guide it to its vision for a new 40-year tree canopy cover goal. The strategic plan will follow a logical order and will include the following:

1. **Vision.** A statement will be created to establish a vision for the future of the urban forest. This statement will verify that there is a common understanding of the UFMP outcome.
2. **Guiding Principles.** Dudek will further refine the vision statement into specific categories based on City, working group, and community member values.
3. **Goals.** Dudek will identify the outcomes that the City seeks to achieve for each guiding principle. Goals will be specific, measurable, attainable, realistic, and time sensitive.
4. **Objectives.** Goals will be broken down into clearly defined steps to address all topics to achieve goals.
5. **Actions.** Dudek will identify specific tasks that contribute to the objectives and that need to be taken to achieve the goals of the UFMP.

Implementation and Monitoring Plan

Following the completion of the strategic plan, Dudek will work with the City and working group to develop an implementation plan that provides the framework for how the actions will be carried out. The implementation plan will prioritize objectives into 3–5-year milestones for the first 20 years, identify who will be responsible to verify the objective is completed, and identify what costs or funding sources are needed to complete the objective. The goal of the implementation plan is to verify that the strategic plan is successfully carried out to achieve the urban forest's long-term vision. The UFMP is an adaptive document that should be reviewed periodically to verify that the goals and objectives are realistic and obtainable based on changes to the City's environmental and economic conditions. The specific actions for periodic review are contained within the monitoring plan and will provide measurable outcomes to determine progress toward the completion of goals and objectives.

Vibrant Cities Lab Community Assessment and Goal-Setting Tool

Vibrant Cities Lab is a collaboration of the United States Forest Service, American Forests, and the National Association of Regional Councils, and serves as an online hub of urban forest and tree research, best practices, and planning tools (<http://vibrantcitieslab.com>). The Community Assessment and Goal-Setting Tool is based on research of urban forest sustainability and establishes criteria and indicators to measure urban forest sustainability. The tool works by stating a desired condition of an urban forest and asking the user to rate the current level of this condition in the City using a numerical rating. It then asks for another numerical rating to indicate what the desired goal for that condition is. At the end of the 28-question survey, the user is provided a total score for the current urban forest status and a total score for the goal status. The difference between these two numbers is the gap between the current status and a sustainable UMFP. Dudek recommends using the Community Assessment and Goal-Setting tool as a main component of the monitoring plan to ensure the City has a clearly defined process to understand the success of implementing the UFMP goals and objectives.

Final Document and City Council Approval

The goal of the final UFMP document is to clearly display the key findings, strategic plan, and other pertinent data so stakeholders understand the important steps in developing a healthy and robust urban forest and are encouraged to take action. As such, Dudek will create a document the City can use to disseminate the UFMP results over a large audience. Understanding that most people do not have the time or interest to read through large volumes of technical urban forestry details, the UFMP will include a user-friendly 8–10 page executive summary that will be graphic based and present the UFMP's major findings and recommendations. The remainder of the technical information and graphics will be provided in the body of the UFMP to illustrate important concepts as well as the framework and details used by City staff and other stakeholders for goal achievement activities.

Monthly Meetings

Dudek will initiate the project with a kickoff meeting between City staff and the Dudek team to identify specific project goals and confirm reporting and communication procedures. The kickoff meeting will also be a data acquisition meeting, prior to which we will have prepared a list of any data needs or gaps. During the meeting, we will discuss these needs and gaps, and any remaining information voids will be filled through research efforts or further coordination with the City. We will provide an agenda prior to the meeting and will submit meeting minutes summarizing major topic discussions following the meeting.

Following the project kickoff meeting, Dudek will meet monthly (virtually and/or in person, as state public health restrictions allow) with City staff to discuss scope of work details, desired deliverables, schedules, community engagement strategies, and existing tree planting efforts, as well as to identify criteria for documenting and developing the UFMP. These monthly meetings will occur throughout the duration of the project and will be the chief way the City will be informed of project progress. Additional project communication not addressed during the monthly meetings will occur via email or telephone.

City Staff Interviews

Following the project kickoff meeting, we will meet with representatives from City departments that are involved in design and/or management activities that may also directly affect tree preservation and green infrastructure design or planning efforts within the City. The intent of the department interviews will be to review the following:

- Existing tree management and protection policies and regulations in comparison to model tree ordinances for potential changes;
- Internal protocol and processes for design, tree removal requests, pruning, use of inventory database and GIS, and other maintenance and tree planting activities being conducted by the departments;
- Financial and human resources dedicated to forestry management, plan review, and permitting;
- Potential future tree management or planting activities;
- City ordinances, regulations, and permits in place that affect tree management, tree protection, tree removal, or tree planting;
- Goals, policies, and priorities of each department that relate to tree management, tree protection, or tree planting;
- Governance structure and internal efficiencies; and
- Urban forest program funding.

Following the interviews, we will summarize all relevant information from each department. This information will be an important component in developing the management goals of the UFMP. We will provide meeting minutes summarizing the major discussions from each interview. We expect that up to eight interviews will be needed.

Meetings and Outreach

Community Engagement

Long-term community involvement and education is an important component of any successful UFMP program. Dudek recognizes that each city is unique and requires a tailor-made community engagement plan to meet community member needs. The Dudek team will first consult with City staff to identify stakeholders, key residents, and/or organizations (such as Butte Environmental Council; Chico Tree Advocates; California State University, Chico; and others) to accomplish City goals and priorities for fostering diverse community member participation and public education avenues. The following community outreach activities are based on the core values and public participation goals of the International Association for Public Participation and aim to ensure that those affected by City tree management have a voice in how City trees are managed:

- **Inform:** To provide the public with balanced and objective information to assist them in understanding the problem, alternatives, and/or solutions.
- **Consult:** To obtain public feedback on analysis, alternatives, and/or decisions.
- **Involve:** To work directly with the public throughout the process to verify that public concerns and aspirations are consistently understood and considered.
- **Collaborate:** To partner with the public in each aspect of the decision, including the development of alternatives and the identification of the preferred solution.
- **Empower:** To place final decision making in the hands of the public.

Working Group

Urban forest management within any city includes multiple actors across all levels of city staff, elected officials, community organizations, and community members, with each actor playing a different role in creating a healthy urban forest. Dudek would assist the City in assembling a working group, which would be designed to bring individuals together, providing the community with a role in creating a management plan that addresses their priorities, issues, and goals. A UFMP that reflects the community is more likely to be implemented upon completion and result in achieving goals of the City urban forestry program.

Working group members would be selected based on criteria developed by Dudek and the City, and in partnership with local nonprofit organizations, to verify that a broad range of City staff, elected officials, community-based organizations, and community members are represented. The objectives of the working group meetings will be the following:

1. Create a vision statement for the Chico urban forest.
2. Identify priority issues to address in the UFMP.
3. Develop short-, medium-, and long-term goals.
4. Identify priority needs to address through public education.
5. Develop a strategy for public education.
6. Review the 80% complete version of the draft UFMP document.

Four (4) working group meetings will be held throughout the development of the UFMP to complete these goals and objectives. Dudek will facilitate these meetings and share relevant research and information to assist in developing the UFMP goals.

Urban Forestry Summits

We will coordinate and host two (2) Urban Forestry Summits in partnership with the City and the working group to engage with Chico community members and organizations. With shifting dynamics in COVID-19 protocols, we anticipate state guidelines allowing for in-person gatherings that adhere to all public safety guidelines. The Urban Forestry Summits will take place on a day and time that is determined by City staff and the working group that would yield maximum participation across all City sectors and demographics. The summits will run approximately 4 hours to allow ample time for deep conversations on the important issues stakeholders want to address.

The initial Urban Forestry Summit will take place approximately 3 months into the UFMP process and serve as an informative and interactive brainstorming event. Key findings on the current status of the Chico urban forest will be identified by the consultant team and the working group. Community members will be led through a series of guided brainstorming exercises to identify key successes, barriers, and desires for the City's urban forest. Community members will be provided a space to share the obstacles and opportunities related to growing and maintaining trees on their property and the challenges and successes they observe with City tree management. The end product of the first summit will be a completed SWOT analysis (strengths, weaknesses, opportunities, threats) of the City's urban forest. Members of the community have a direct relationship with the City's urban forest and are key to developing the vision, guiding principles, goals, and objectives of the UFMP.

The second Urban Forestry Summit will take place after Dudek delivers the first draft of the UFMP to the City; it will focus on ensuring the vision, guiding principles, goals, and objectives reflect the values and concerns expressed in the initial Summit. Community members will engage in a dialogue about the proposed UFMP strategic plan, be guided through the process and implementation plan, and share feedback. The end result of the second Summit will be to build consensus on the strategic plan and gain approval from attendees.

Community Outreach Materials

Dudek's marketing and graphics team will prepare outreach materials that will communicate the value of the City's urban forest through infographics. (Figure 3 shows an example of outreach material Dudek created for the City of San Jose.) With input from key stakeholders and the City, we will identify strategic media outlets for these outreach materials such as social media, radio, local television, newspapers, and other venues to engage the public in the UFMP process.

Online Outreach Opportunities

Online Public Survey

Our experience with community engagement indicates that online surveys result in significantly higher public input than surveys conducted during community meetings. As such, we will develop an online survey using the SurveyMonkey platform. Questions will consist of topics related to urban forest values, perceived benefits of trees, and ways the City can support community tree planting efforts. Demographic questions will be included as well, so that our survey is equitably distributed and representative of the City's community members. If desired, Dudek will work with the City to

Figure 3. Spanish Language Outreach Material Developed for the City of San Jose



distribute paper surveys to a random sample of households to solicit input from residents that may not have access to the internet or a Wi-Fi-enabled device. Results of the surveys will be compiled in an electronic file, summarized, and included in the UFMP.

City Webpage

Dudek will create educational infographics and provide project updates to be added to the City of Chico website to further enhance community education about the value of the City's trees and encourage participation in the City urban forest program. Dudek's Web design services will help enhance online presence and serve as a hub for all project updates and education materials, meeting notifications, and UFMP documents.

Webinar

Dudek will conduct two interactive webinars to teach community members about urban forest best practices and to engage community members in the City urban forestry program. These webinars will be held over Zoom and will cover topics like tree establishment care; "right tree, right place" concepts; plant problem diagnosis; pruning; and fire risk and safety. Community members will be encouraged to come with questions or issues they are experiencing with their trees, and leave the webinars better prepared to maintain and care for their trees.

Social Media

Dudek's marketing and graphics team will create social media content for the City to disseminate information about the UFMP process and public engagement opportunities, including the public survey and the Urban Forest Summits. Social media content will be uniquely designed to fit the City's desired image.

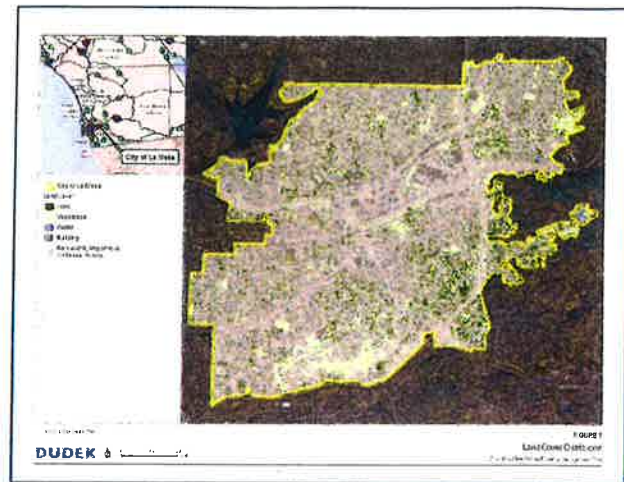
Canopy Cover Analysis

Dudek will conduct a canopy analysis that includes all trees within City limits, including public and private property trees, open space, natural resource areas, creek and riparian areas, golf courses, and other areas defined by the project team and the City. This analysis will focus on the City's existing canopy cover, which consists of the area of the City covered by trees when viewed from above. The resulting canopy cover study will provide information on the number of trees and tree density on all identified study areas, and provide analysis if trees are equitably distributed throughout the City.

Dudek will conduct an image-based mapping of urban tree canopies within the City, using freely available aerial imagery from 2020 and purchased satellite imagery from 2002. The tree canopy analysis for 2020 will utilize 4-band multispectral National Agriculture Imaging Program imagery (collected on July 9, 2020) that is freely available from the United States Geological Survey, as well as tree height information derived using bare ground and top-of-surface (e.g., top of trees, buildings, etc.) elevation products purchased from Nearmap. The combined multispectral imagery and feature height products will be used to map all trees within the City, using both multispectral analysis approaches and machine learning image classification. An accuracy assessment will be performed to evaluate the accuracy of the urban tree canopy product, with an expected accuracy of at least 95%. Dudek proposes to also document our methodology so that the City can conduct a similar analysis in the future.

For the 2002 urban tree canopy analysis, Dudek will purchase archived QuickBird 4-band multispectral satellite imagery collected on September 30, 2002. The "ortho-ready" satellite imagery will be orthorectified by Dudek so that it is properly positioned and aligns with the National Agriculture Imaging Program imagery and other data layers for the Chico area. As with the 2020 National Agriculture Imaging Program imagery, multispectral analysis approaches as well as machine learning image classification will be used to map all trees within the City in September 2002. However, tree height data will not be included in the analysis due to the historical nature of these data and the lack of tree height information at that time. The multispectral and machine learning analysis is expected to classify the trees with at least 90% accuracy. An accuracy assessment will be performed to verify the accuracy of the 2002 urban tree canopy product.

Figure 4. City of La Mesa Canopy Cover Analysis



The final product will be a GIS data file of the tree canopy in the City for both 2002 and 2020, as well as an assessment of the change in canopy cover over this period. (Figure 4 shows an example of this analysis completed for the City of La Mesa.) Dudek will then further analyze the 2020 data to determine which parts of the City have relatively lower urban tree canopy cover and where management actions can be implemented to meet the overall goals of the UFMP.

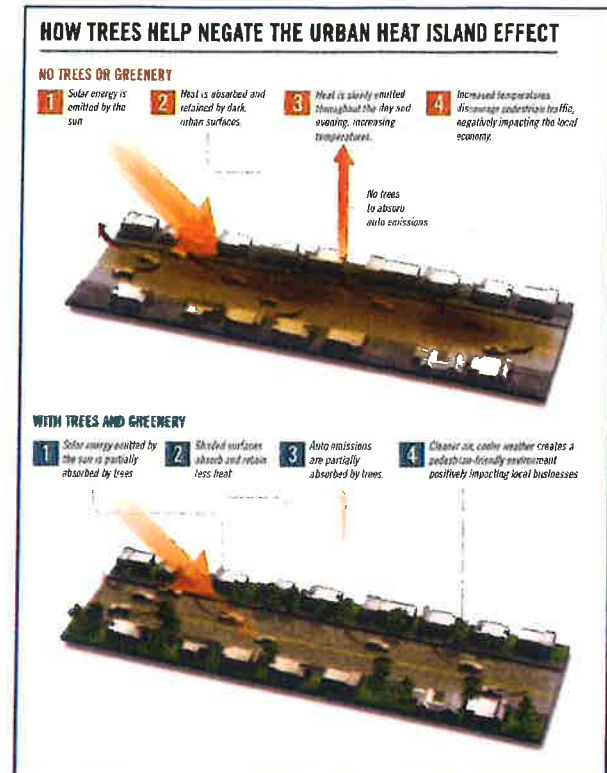
Application of Canopy Cover Analysis

The first step to developing a 40-year plan to achieve equitable canopy cover will be to determine areas of the City where resources are needed and where an injection of these resources would provide the greatest community net benefit. To determine these areas, our GIS specialists will overlay the updated tree canopy analysis with CalEnviroscreen 3.0, urban heat island data, and other data provided by the City, such as heat exposure areas, disadvantaged communities, impervious surfaces, council districts, and land types. These data will inform the analysis and help to determine if specific areas are lacking tree canopy and whether these deficits are impacting certain parts of the community more than others. Strategic areas for tree planting opportunities—such as within private property, school grounds, commercial corridors, parks and open space, parking lots, and transportation corridors—will be discussed with City staff and the community. Dudek will work with the City staff to review and identify opportunities for increasing canopy cover in these areas.

Dudek's team of urban foresters and GIS specialists will analyze various layers on a map of Chico to present a clear picture where the City should strategically invest resources. Results will be reported as City total canopy coverage and then further broken down by public and private property and land cover types, such as open space, natural resource areas, creek and riparian areas, golf courses, parks, transportation corridors, council districts, or similar delineation. Our graphics staff will take the interpretation of this information and create charts, graphs, and tables that are visually appealing and understandable for inclusion in the final UFMP. (See Figure 5 for an example of graphics created by Dudek graphic designers.) This analysis will inform the implementation strategy and the benchmarks of the short- and long-term goals used to measure City progress toward its canopy cover goals.

Based on the canopy cover analysis, Dudek will work with the City to develop canopy cover goals that are measurable and achievable. The GIS analysis of canopy cover within the City's various land cover types would be taken into consideration when developing the City's canopy cover goals. While the existing park, creek, riparian, and open space areas may have substantial canopy cover, City canopy goals will be focused on increasing canopy cover within the built environment. Dudek will develop a long-term planting plan to achieve canopy cover goals. In collaboration with the City, Dudek will establish a 40-year canopy cover goal for the City, and Dudek will calculate tree planting scenarios and metrics required to achieve the canopy cover goal. As requested in the RFP, tree planting goals will be broken down over short- and long-term periods, with attainable 3- to 5-year milestones for the first 20 years. Significant tree canopy goals will be realized over a longer term (30-40 years), as they are dependent on tree growth rates. The analysis will also discuss the expanded benefits that could be achieved by increasing the City's tree canopy, and how the City can combat climate change and mitigate heat impacts through maintaining and growing a healthy urban forest.

Figure 5. Urban Heat Island Effect Infographic
Developed by Dudek's Graphic Designers



UFMP Outline

Dudek anticipates first developing one content outline by chapter before proceeding with development of the UFMP product. The content outline will be established to verify that the project meets the required elements and goals of the City. This content outline will be submitted to the City for review and comment within 14 calendar days of project initiation.

First and Second Draft

Dudek will submit a first draft to City staff within 150 calendar days from the day of the commencement of work, and a second draft, including all revisions, within 60 calendar days of first draft submittal. We request that the appropriate City personnel provide comments on the first draft within a 2-week time frame. These edits will be incorporated, and the second draft will be made available to the public for review and comment. Dudek will coordinate with the City to post the second draft on its website and other important media channels. A dedicated email address and set of public comment instructions will be created by Dudek to facilitate receipt and organization of public comments. The open period for public review and comment of the draft of the UFMP will be 30 calendar days. The second draft will be submitted as an electronic copy in Adobe PDF format and will include all figures and appendices.

Final Draft and Presentations

Following completion of the 80% draft review process, the final UFMP will be developed, incorporating City and public comments, and will be completed by March 1, 2022. The final copy will be submitted as an electronic copy in Adobe PDF format, along with 10 bound hard copies, and will include all figures and appendices. Dudek will present the results of the UFMP and recommendations to the Chico City Council and the Bidwell Park and Playground Commission. Dudek will prepare and submit the final UFMP within approximately 10 months from the start date of the contract.

Successful achievement of these timelines will rely, to some extent, on the City's responsive review of the draft documents.

Schedule

The project schedule is displayed in Table 1 below.

Table 1. Project Schedule

Tasks	2021										2022		
	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	
1. Meetings													
a. Kickoff Meeting													
b. Monthly Meetings													
c. City Staff Interviews													
2. Community Engagement													
a. Working Group													
b. Urban Forestry Summit													
c. Outreach Materials													
d. Internet Outreach													
3. Canopy Cover Analysis													
a. Application of Canopy Cover Analysis													
b. Tree Equity Score Analysis													
4. Diverse and Resilient Tree Inventory													
a. Citywide Tree Planting Analysis													
b. Street Tree Master Plan Planting Map													
5. Current Status of the Urban Forest													
a. Urban Forest Composition Analysis													
b. Comprehensive City Review													
c. Strategic Plan													
d. Implementation and Monitoring Plan													
e. Community Assessment and Goal Setting Analysis													
6. Final Document and City Council Approval													
a. Urban Forest Master Plan (UFMP) Outline													
b. Preparation/Submittal, First Draft of UFMP													
c. Preparation/Submittal, Second Draft of UFMP													
d. Preparation/Submittal, Final Draft (March 1, 2022)													
e. Presentation to City Council													
f. Presentation to Bidwell Park and Playground Commission													



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